

# Samuel “Tyson” McKinney

## EDUCATION

|       |                        |   |
|-------|------------------------|---|
| Ph.D. | Hydrogeology           | University of Texas at Austin (expected 2025)         |
| M.Sc. | Earth Science          | University of California Santa Barbara (2014)         |
| B.Sc. | General Geology        | University of Texas at Austin (2012 – Highest Honors) |
| B.Sc. | Mechanical Engineering | University of Texas at Austin (2009 – Honors)         |

## RESEARCH EXPERIENCE

### **Research Scientist Assistant, UT Bureau of Economic Geology** 01/2020 – 08/2020

- Installed and maintained hydrologic field equipment for ongoing spring water study
- Collected water samples from wells and springs and performed field alkalinity titrations
- Installed and maintained seismic monitoring stations for the TexNet Program

### **Graduate Student Researcher, UC Santa Barbara** 09/2012 – 06/2014

- Conducted an independent research project on the geochemistry of a REE-deposit in CA
- Operated and maintained an SEM, EPMA and LA-ICP-MS to collect geochemical data
- Presented results of research in oral format at the Annual Goldschmidt Conference (2014)

### **Geologist – Grade 5 (Intern), U.S. Geological Survey** 06/2013 – 09/2013

- Used a petrographic microscope and heating/freezing stage to analyze fluid inclusions
- Operated an SEM and laser Raman spectrometer to analyze chemistry of fluid inclusions

### **Undergraduate Research Geologist, NSF REU** 06/2011 – 05/2012

- Performed sample collection and geologic mapping in Yellowstone National Park
- Presented results of research in poster format at regional GSA meeting (2012)

### **Undergraduate Research Geologist, UT-Austin (Catlos Group)** 10/2010 – 05/2012

- Analyzed petrography of basalt thin sections using a petrographic microscope and SEM
- Organized and set up teaching lab materials for intro geology course (Earth Materials)

## WORK EXPERIENCE

### **Tutor, Sylvan Learning Center** 09/2019 – 01/2020

- Facilitated student learning in math, science and reading through small group tutoring
- Coordinated with Center Directors and other teachers to set/maintain tutoring schedule

### **Teacher (Chemistry & Physics), Eastside Memorial HS** 10/2017 – 05/2019

- Developed and updated chemistry and physics lectures and teaching lab materials
- Maintained accurate student records, including attendance, grades and accommodations

### **Engineering Geologist, California Division of Oil & Gas** 01/2015 – 01/2017

- Witnessed oilfield operations to ensure compliance with local/state/federal regulations
- Reviewed and maintained an accurate inventory of oil/gas well files in the district office

### **Teaching Assistant, UC Santa Barbara** 09/2012 – 06/2013

- Taught laboratory sections for Oceanography, Plate Tectonics and Physical Geology
- Organized and set up teaching lab materials and supported students during experiments

### **Student Engineer, Applied Research Laboratories** 05/2008 – 12/2009

- Assisted mechanical engineers with design and testing of sonar housings for the US Navy
- Communicated with vendors to obtain quotes and place manufacturing orders

## **FIELD EXPERIENCE**

- 2014 UCSB Summer Field Course (as a TA) – Iceland (2 weeks)  
2012-2014 Thesis Field Work - Pinto Mountains, southern California (5 weeks)  
2013 UCSB Intro Geology Courses (as a TA) – Various Southern California Locations  
2012 UT Summer Field Course - Texas, New Mexico, Wyoming, Montana (6 weeks)  
2011 NSF Research Experience for Undergraduates – Yellowstone NP (5 weeks)  
2010-2012 UT Intro Geology Courses – Various Central Texas Locations

## **SKILLS**

- Rock/Mineral/Fossil Identification
- Rock Crushing Equipment (jaw crusher, disc mill, sieve shaker)
- Thin Section Preparation Equipment (tile and slab saws, carbon coater)
- Analytical Instrumentation (SEM, XRD, XRF, EPMA, LA-ICP-MS)
- Certified in Adult & Pediatric CPR/AED & First-Aid (American Red Cross)
- Computer Software (Microsoft Office, ArcGIS, MATLAB, C++, Java, AutoCAD)
- Spanish – working proficiency

## **SCHOLARSHIPS & AWARDS**

- 2018 Eastside Memorial HS Teacher of the Month (September 2018)  
2017-2018 Eastside Memorial HS Teacher of Promise (2017-18 School Year)  
2014 Preston Cloud Memorial Award (UCSB)  
2014 Goldschmidt Conference Travel Grant  
2010-2012 Robert H. Cuyler Endowed Presidential Scholarship (UT)  
2005-2009 Ernest J. Cockrell Engineering Scholarship (UT)

## **CONFERENCE ABSTRACTS**

- McKinney, S.T., Cottle, J.M., Lederer, G.W. & Granneman, P.E. (2014). *Evaluating mechanisms for rare earth element mineralization in Proterozoic gneiss, Music Valley, California.* Oral presentation at Annual Goldschmidt Conference, Sacramento, CA.
- McKinney, S.T., Mogk, D.W., Henry, D.J., Mueller, P.A. & Catlos, E.J. (2012, May). *Precambrian geology of Yellowstone National Park (YNP) and surrounding areas: petrogenesis of leucogranites.* Poster session presented at GSA Rocky Mountain Section Meeting, Albuquerque, NM.

## **PUBLICATIONS**

- McKinney, S.T., Cottle, J.M. & Lederer, G.W. (2015). Evaluating rare earth element (REE) mineralization mechanisms in Proterozoic gneiss, Music Valley, California. *Geological Society of America Bulletin*, 127(7-8), 1135-1152.