

## 2023 ARMA Future Leader Webinar Series

Every Two Weeks on Fridays 9-10 AM MT



**12<sup>th</sup> lecture: August 25, 2023**

**Please reach out to [shahrzad.roshankhah@utah.edu](mailto:shahrzad.roshankhah@utah.edu) to get the Zoom meeting information.**

**Speaker: Kevin McCormack**

### **Title & Abstract:**

#### **Stresses and seismicity: A story of creep and induced seismicity forecasting**

Understanding the interplay between stresses and seismicity is crucial for induced seismicity. In this talk, we will explore the way in which the well-understood Mohr-Coulomb approach lends itself to new innovation. Specifically, we will look at (1) probabilistic geomechanics and their ability to inform the hazard potential of faulting scenarios, (2) the impact that a curved, listric, or rugose fault has on such analyses: Does a curved fault exhibit the same hazard as a planar fault? (3) The impact of viscoelastic stress relaxation as it relates to the stress state and the seismicity, and (4) statistical modeling of the maximum magnitude event that is likely to occur given an injection scenario. All told, we will see the way that a thorough understanding of stresses equates to a better understanding of the hazard of induced seismicity. I hope you will join us.

### **Biography:**

Kevin L. McCormack is a Stanford-educated geophysicist who specializes in induced seismicity and confined systems. His research contributes to the burgeoning industry of carbon sequestration.

