



2022-2023 Faculty Colloquium Series

Tuesday, November 29, 2022, 12-1 pm
Escalante Hall, Room 101

“What the heck is geophysics, and why would I care?”
Dr. Greg Baker, Professor of Geology



Geophysics is a branch of geology focused on the use of quantitative methods for the analysis of physical properties and physical processes of our Earth—in other words, utilizing technology to understand Earth-science. In laypersons terms (e.g., the “elevator talk”) I use cool technological toys to work on interesting geology problems, so I get to be a nerd and an outdoorsperson simultaneously! Although geophysics comprises a very broad array of topics—from earthquakes & Earth’s core, to climate change, to ocean circulation, to mountain-building tectonics—my specific area of focus is on “problems” in the Earth’s near-surface (upper 200m or so). The topical areas I have worked on recently include (i) glaciers & glacial processes, (ii) groundwater & groundwater contamination, and (iii) landslides & wildfire-related slope erosion. My tools include near-surface seismic methods, ground penetrating radar, high-resolution magnetic surveys, and various forms of drone (sUAS) data acquisition & analysis. I will introduce this broad array of topics and tools to provide a state of the art, and then conclude with a discussion of ongoing technological advances and the problems they might be used to solve in the future.