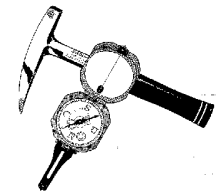


California State University
Northridge



The Department of Geological Sciences Presents:

Carolina Ortiz Guerrero

CSU Northridge

Timescales and conditions for decoupled crustal flow in the Pioneer Mountains Metamorphic Core Complex

Tuesday, Mar. 28th, at 12:30 p.m. in LO1212

Please call (818) 677-3541 or email geology@csun.edu if you have any questions

Abstract:

This presentation is based on a research that compiles an investigation in isostatically induced decoupled flow, a crustal-scale process that has been proposed as one of the mechanisms that accommodate crustal extension during the formation of metamorphic core complexes. This study was focused on the Pioneer Mountains Metamorphic Core Complex (PMCC) in Idaho (U.S.), a core complex that formed during Eocene NW-SE extension and which hosts a zone of strain decoupling at the core of the Wildhorse Dome. This study presents field-mapping, geochronological, petrological, and structural data from high-grade metamorphic and igneous rocks in the Wildhorse Dome of the PMCC. The data establish the timescales and conditions of crustal decoupling at high-temperature conditions, at middle-crustal depths of ~15-20km. from ~50 to 47 million years, synchronous with upper-crustal fault-driven extension and high-temperature metamorphism.