

## From convergence to transform: the evolution of the southern California plate margin

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**11:10 am - Noon**

**Building 53 Room 215**



The continental margin exposed in California displays a 250 to 30 million-year-old oceanic–continental convergent plate margin that has been locally reorganized by more recent transform plate margin tectonics. The rocks and faults diagnostic of these tectonic interactions are preserved exceptionally well, and California has become an archetypical location for studies investigating the development of plate tectonic concepts that can be used to better understand rocks in other convergent and transform margins found across the globe. Still, a variety of first order observations from California are not fully understood within the broader context of plate tectonics: 1) episodicity and feedback between discrete convergent margin rock assemblages, 2) deformation patterns fault in the forearc region between the subduction zone and its associated volcanic arc within convergent margins, and 3) the kinematic evolution of multiple fault systems in a distributed transform plate margin. In this talk, I will discuss some of the methods and results that my students and I have used to address these problems over the past 7 years. Our results have implications for the development of forearc sedimentary basins, the development of the Sur–Nacimiento fault within the forearc during plate convergence, and the role the Sur–Nacimiento fault has played in the recent development of the active faults along the central California coast like the San Gregorio–Hosgri fault.