# DEPARTMENT OF CHEMICAL AND PHYSICAL SCIENCES

## COLLOQUIUM SEMINAR SERIES

Wednesday, September 12, 2018

3:10pm

CC2150


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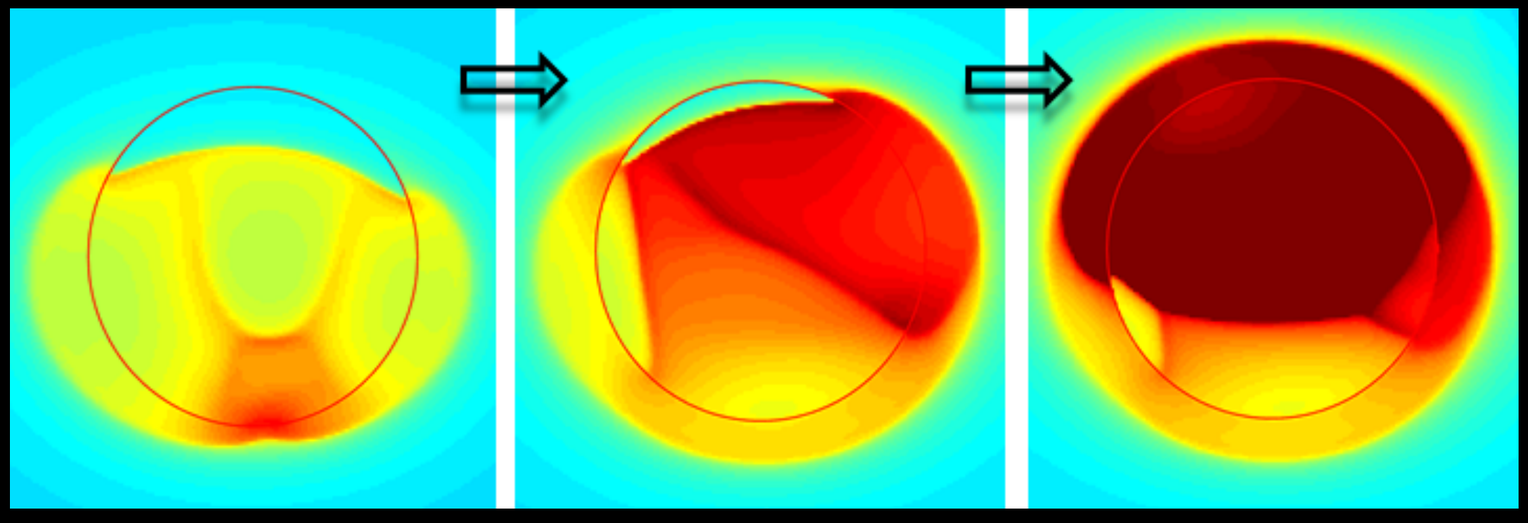
## An Integrative Approach to Understanding Earthquake Source Processes and Long-term Fault Behavior




Earthquakes cause hazards. Effective hazard mitigation hinges on a precise understanding of earthquake source processes as well as the long-term fault behavior. In this technological era, the availability of dense seismic arrays worldwide and computational advancements allow us to study earthquakes and seismogenic faults from both data- and model-driven perspectives. Drawing on their unique strengths, I will give an overview of my holistic approach that combines both perspectives to enhance our understanding of a range of topics about earthquake sources. In particular, I will present several numerical studies on both natural and induced seismicity that highlight the important role of aseismic slip in earthquake mechanisms. I will conclude by discussing the continuous expansion of my methodological toolbox by incorporating both laboratory data and additional seismological techniques into my program of research on earthquake physics.