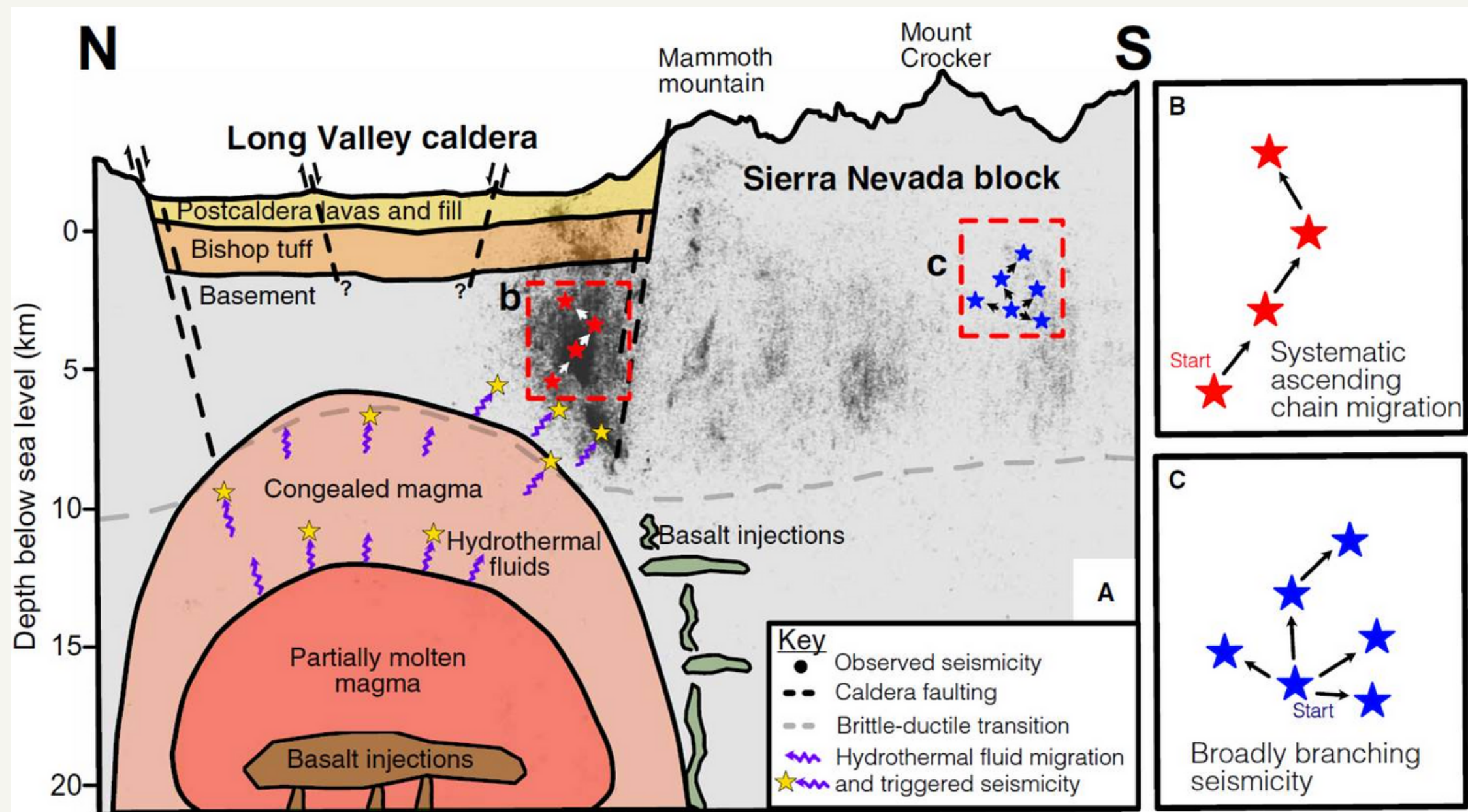




COLLOQUIUM SEMINAR SERIES

FLUID-DRIVEN SEISMICITY IN VOLCANIC AND ENHANCED GEOTHERMAL SYSTEMS



It is important to understand the mechanisms behind fluid-driven earthquakes, whether they are beneficial in the context of generating fractures for geothermal energy systems, or hazardous in the case of large earthquakes that may cause structural damage. This talk covers two case studies of seismicity related to fluid migration. Firstly, I discuss the Long Valley Caldera in California, where we find clusters of ascending seismicity with a chain-like topology. These events are likely triggered by hydrothermal fluids originating from degassing of an ancient caldera-wide pluton. Secondly, I discuss the Raft River geothermal energy extraction site, where earthquakes are detected in the deep crystalline basement. Our geomechanical model, which is calibrated by satellite measurements, suggests that these earthquakes are driven by poroelastic stresses originating from shallow cold water injection.

COLLOQUIUM SEMINAR SERIES

featuring

Dr. Bing Li

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