



## IGPP Virtual Seminar Series

**Mong-Han Huang**  
University of Maryland, College Park

### The active tectonics of Taiwan

**Date: Tuesday, February 16, 2020**

**Time: 12:00 pm, Pacific Time**

**Host: El Knappe (eknappe@ucsd.edu – if you have questions)**

**Zoom link (password = taiwan): [click here to join meeting](#)**

**Meeting ID: 931 4691 0321**

\*Because this meeting will be recorded, please make sure that you are comfortable with it before registering\*



Rapid convergence between the Eurasian plate and the Philippine Sea Plate makes Taiwan one of the most tectonically active regions in the world. In this talk, we use Interferometric Synthetic Aperture Radar (InSAR) data integrated with continuous GPS measurements to monitor interseismic deformation in western Taiwan, and then use this combined dataset to constrain a block model of horizontal interseismic crustal deformation. In addition, the high convergent rate accompanied by annual monsoons and typhoons also generates high erosion rate in Taiwan. Decadal suspended-sediment erosion rates were shown to be correlated with cumulative seismic moment in decadal scale. From the geodetic measurements, we find higher interseismic slip rates on predominated thrust faults in eastern and southwestern Taiwan than northwestern Taiwan. Higher interseismic slip and uplift rates in eastern Taiwan agree with the long-term denudation rate as well as decadal erosion rate, and both modern and Holocene river erosion rates show higher correlation with geodetic interseismic fault slip than with topographic relief, stream power, or decadal seismic moment release. Our results imply that although large earthquakes could enhance sediment transport in a short period of time, high interseismic slip rates lead to uplift and greater erosion rates in a longer, earthquake cycle relevant time scale.