

*Measuring Ground Deformation from Space to Study Earthquakes,  
Volcanoes, Glaciers and more*

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It is possible to measure centimeter or even millimeter changes in the level of the ground over 100's of kilometers by comparing radar images from space by a technique called Interferometric Synthetic Aperture Radar (InSAR). These measurements provide information about a variety of processes: earthquakes, volcanoes, landslides, pumping of groundwater or oil, and glacier movements. The Space Grant student will analyze InSAR data in order to study one or more of these processes, depending on the student's interests. We have active projects in the western U.S. and Alaska, South America, New York State, and the Middle East. The project will involve processing the data on a Linux computer cluster, error analysis, and visualizing the results in Google Earth Pro or other Geographic Information Systems (GIS). Previous computer programming experience is a plus, but not necessary, since we will train you in what you need to know.