



The Heising-Simons Natural Disaster Risk Reduction UC Berkeley – GeoHazards International Internship:

Conduct civil engineering & earth science research relevant to developing world

Two internship positions will be available to UC Berkeley civil engineering and earth science undergraduates for the summer of 2014. One earth science and one civil engineering intern will conduct research in support of current earthquake mitigation and awareness projects underway in north-eastern India through collaboration between UC Berkeley and GeoHazards International (GHI, www.geohaz.org).

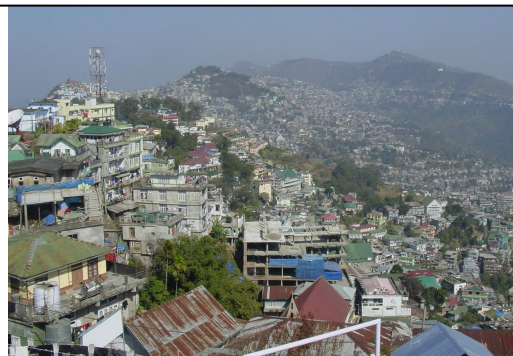
GHI works in the world's most vulnerable communities to reduce loss of life and suffering caused by earthquakes and tsunamis through preparedness and mitigation. It is currently focusing on the city of Aizawl, the capital of the north-eastern Indian state, Mizoram, an extremely earthquake-prone region of the world, located near the epicenter of a magnitude 8 earthquake in 1897. Aizawl's recent exceptionally rapid population growth has led to crowded, poor quality and unplanned construction. The location of the city, on a mountain ridge, presents additional risk because the steep slopes are prone to landslides and seismic energy is amplified on topographic ridges. GHI currently is working with a multidisciplinary team of US and Indian civil engineers, seismologists, geologists, urban planners and public policy specialists to assess the seismic hazard in Aizawl, to estimate the human, social, and economic consequences of a future large earthquake, and work with city leaders devise economically, politically, and culturally feasible measures to reduce the city's risk.

Interns will conduct their research projects under the mentorship of a GHI staff member, and a UC Berkeley faculty member and a graduate student. While the specific research projects for the interns are still being developed, some possible research topics could include:

- Landslide mapping studies of the local area to identify specific areas of high landslide susceptibility zones and potential remediation measures, and
- Seismic hazard characterization and estimation of the maximum shaking possible from the nearby faults;
- Estimation and simulation of topographic seismic amplification with possible application and use of field-deployed seismometers or other sensors;
- Evaluation of lifeline systems like the water storage and delivery infrastructure, followed by network analysis to determine fragilities of various components and identification of the key system vulnerabilities;
- Conducting geotechnical or structural studies that develop possible solutions to protect vulnerable community buildings and infrastructure such as multi-family housing, water storage tanks, schools, bridges;
- Studies of the potential effects of specific land use policies and regulations intended to reduce the local population's risk.

More information about how to apply will be posted at <http://peer.berkeley.edu/education/internships.html> on November 15, 2013. Students from diverse groups traditionally underrepresented in science and engineering programs are especially encouraged to apply.

Aizawl: A city in need of earthquake mitigation



Unregulated construction in earthquake and landslide country

