

## School of Graduate Professional Studies

Home | About Us | Academic Programs | Academic Resources | Admissions | Library | Tuition & Student Aid

The Pennsylvania Emergency Management Agency (PEMA) has urged all Pennsylvanians, primarily those situated in Southeastern Pennsylvania, to remain alert and be prepared for expected high winds, heavy rains, and subsequent flooding from Hurricane Irene.

In the event area roadways become impassible or power is lost, Penn State Great Valley will activate its text alert system. If possible, check this website for updates or call the School's emergency weather hotline at 610-648-3399.



**Dr. Patrick Qiang,** is an expert on infrastructure protection and disaster planning. He offers advice for preparing for this weekend's severe weather.

[READ ARTICLE>](#)

Home > News and Events

### Infrastructure Protection and Disaster Planning

**By Patrick Qiang, Ph.D., assistant professor, operations and management**

We have witnessed an increasing number of disasters in the United States and around the world this year alone. According to **an article** in the *USA News*, there have been nine \$1 billion weather-related disasters in the United States in 2011.

So what have we learned in terms of infrastructure protection and disaster planning? We **MUST** be prepared for those events that are rare but have widespread impact. For instance, the most recent 5.8 magnitude earthquake has been proven to be the largest quake on the east coasts since 1897, which caused one of four emergency diesel generators at the North Anna nuclear power plant in Virginia to stop working. And we definitely do not want to see the devastating nuclear disaster in Japan happen again. The major problem is that often times, people would hardly worry about these rare catastrophes, which makes their impact so destructive once they occur. According to **an article** in *New York Times* regarding the earthquake in Japan, preparedness against tsunamis over the decades never became a priority for Japan's power companies or nuclear regulators. They were perhaps lulled, experts said, by the fact that no tsunami (itself a Japanese word) had struck a nuclear plant until then. Even though tsunami simulations offered new ways to assess the risks of tsunamis, plant operators made few changes at their aging facilities, and nuclear regulators did not press them.

Talking about rare events, we are still waking up from the shock of the earthquake this past Tuesday as Hurricane Irene is making its way to hit our region this weekend. From a purely probability point of view, such coupled disasters have almost a zero chance of occurrence. But once such instances occur, they will have a major impact on the society and infrastructures where we live. It is the time to exam the critical systems and networks to protect the most vital components against the disasters even though they may seem "unlikely" to happen.