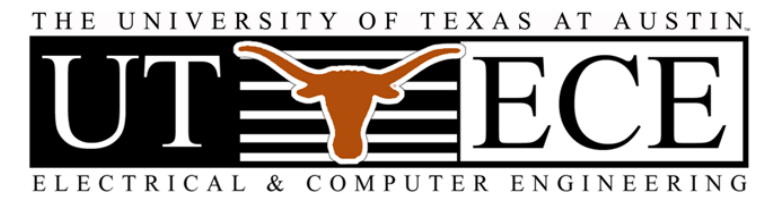


# The University of Texas at Austin Power Electronics Research Group (PERG)

Prof. Alexis Kwasinski  
Leading Investigator



## Effects of 2008 hurricanes Dolly, Gustav and Ike on critical power infrastructures

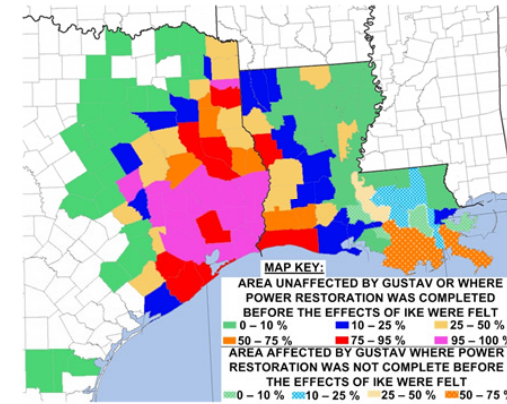
### Effects on the power grid



Severe damage caused by Ike



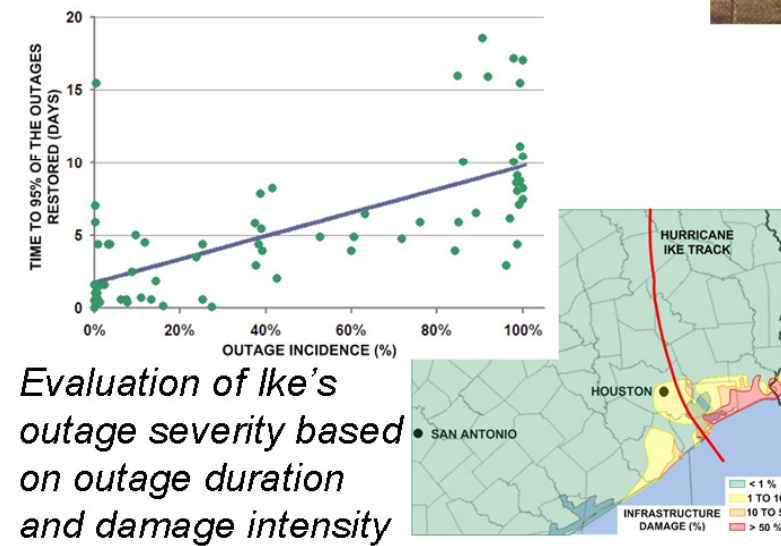
Infrastructure hardening option:  
Gullied poles



Grid restoration activities and technologies



Damage caused by Gustav



Pole failure mode #1: Broken pole due to high winds



Pole failure mode #1: Extreme wet soil

### Effects on Telecommunications Power Infrastructure

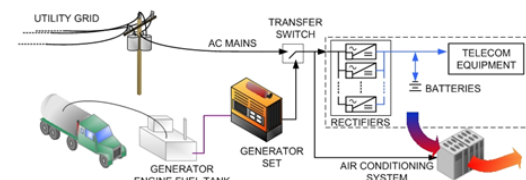


Central Office

Damaged infrastructure



DLC



Telecom power architecture

Severe damage to a line powering a cell site

### Dependency on reliable power



Power-related outages



Camping genset on pole (inadequate)

Restoration strategies

Portable Genset



Portable Genset for DLC



Cell site

DLC



Cell site

Hut



COW

