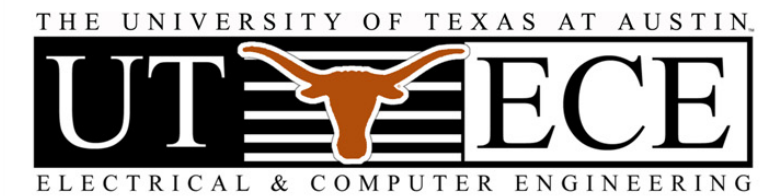


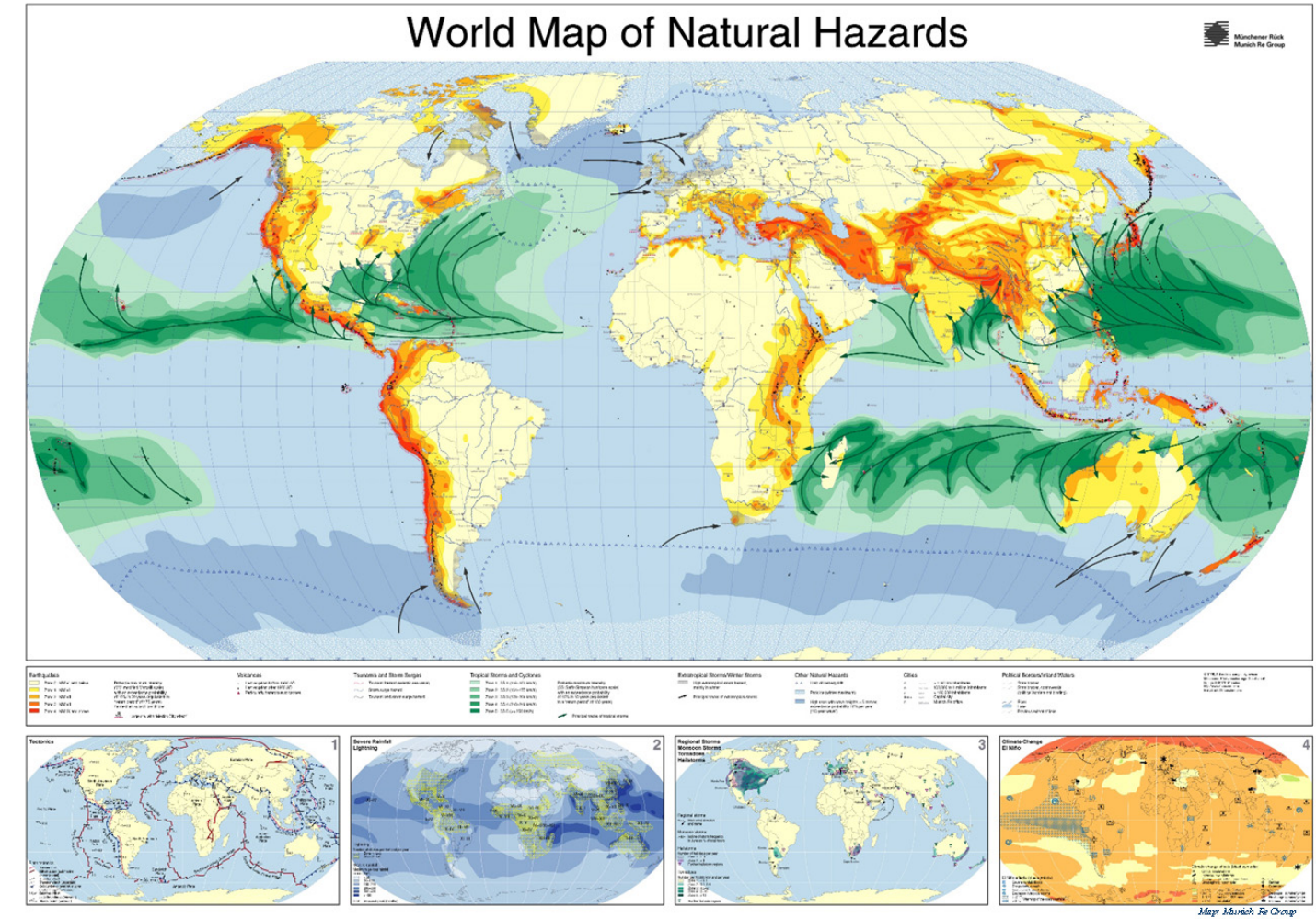
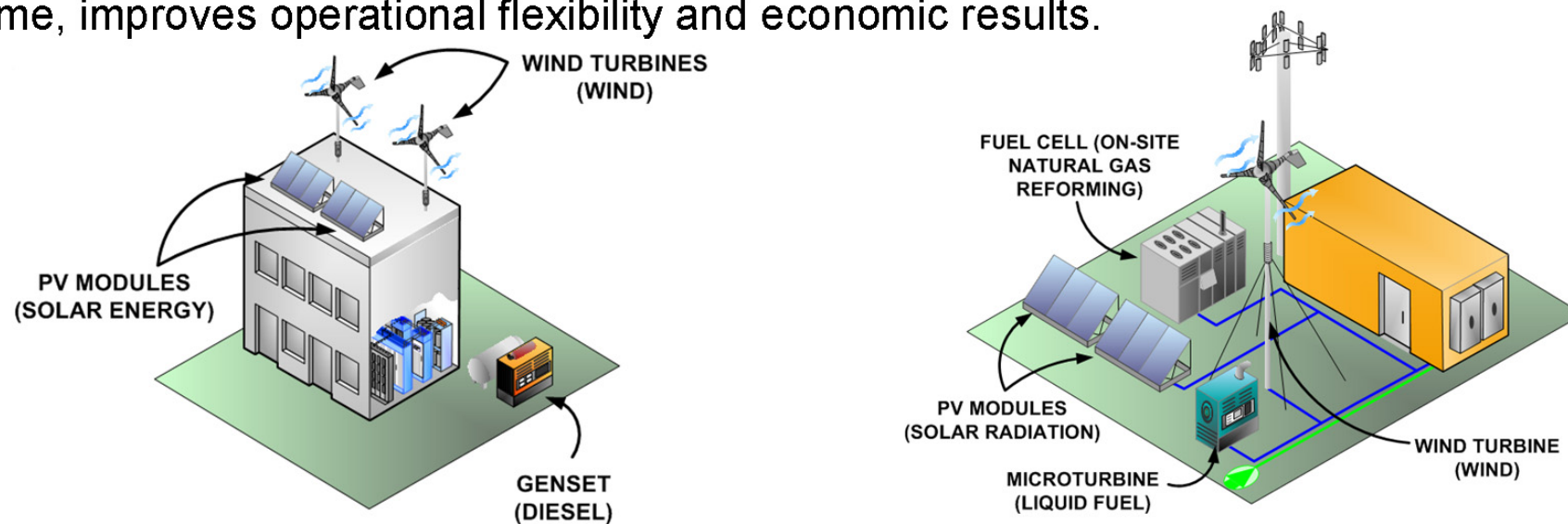
# The University of Texas at Austin Power Electronics Research Group (PERG)

Prof. Alexis Kwasinski  
Leading Investigator



## Reduced Power Supply Vulnerability to Natural Disasters

- Large world's regions are at risk of natural disasters.
- The ac tie of every telecommunications system site acts a single-point of failure.
- Power outages are an important cause of communications loss of service during natural disasters.
- Telecom power systems lack power input diversity, not redundancy.
- Use of distributed generation technologies provides input diversity and, at the same time, improves operational flexibility and economic results.



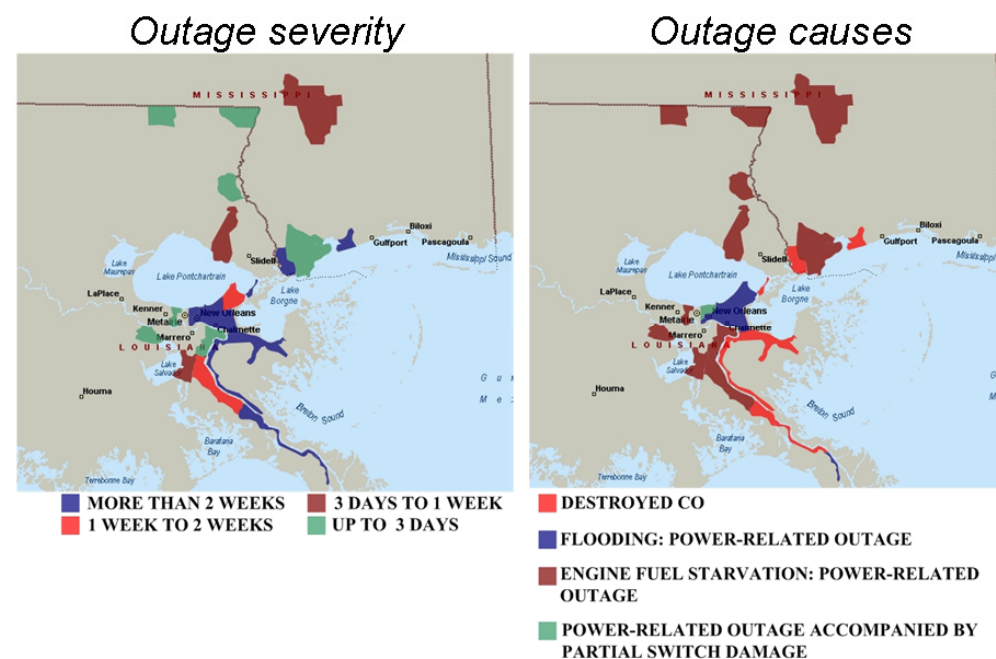
## Example: Effect of Hurricane Katrina on Telecommunications Power Infrastructure



Destroyed communications center



Very long power outages



## Inadequate Restoration Means



Power outages: Gensets



Central offices and feeders: Digital loop carrier systems



Multiple gensets at each cell-site



Digital loop carrier with genset