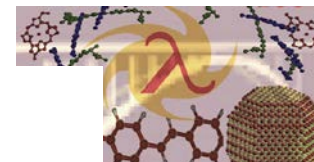
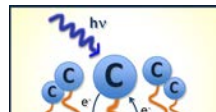


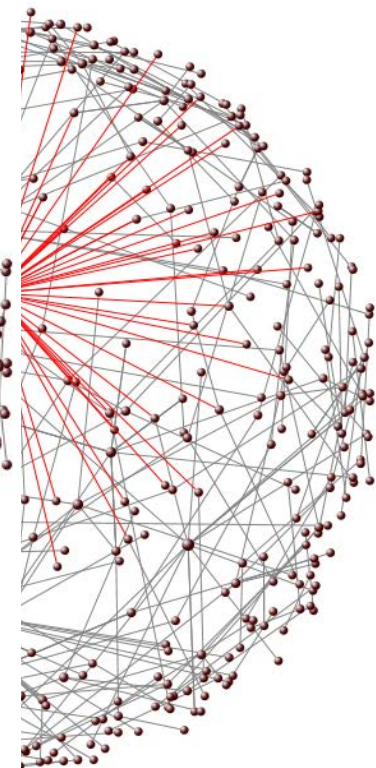
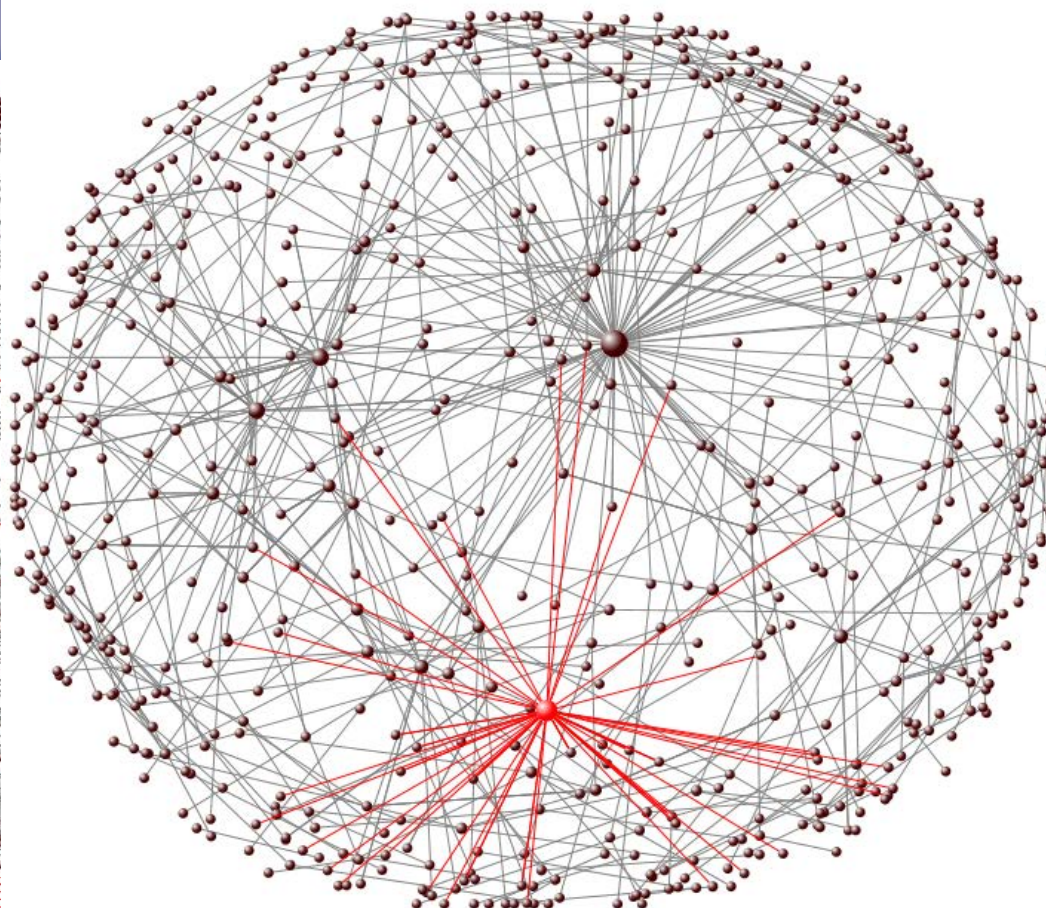
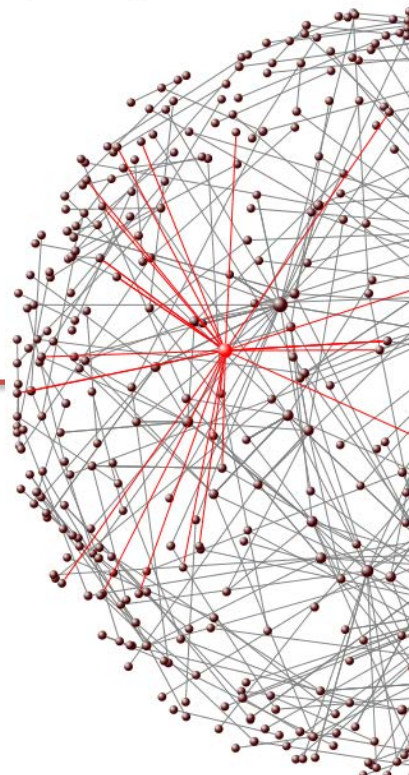


FSU Research Network



FSU Foundation

Department of Energy



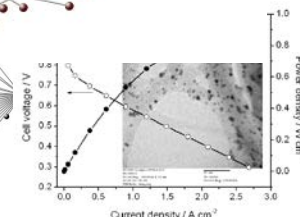
Biomass



Solar

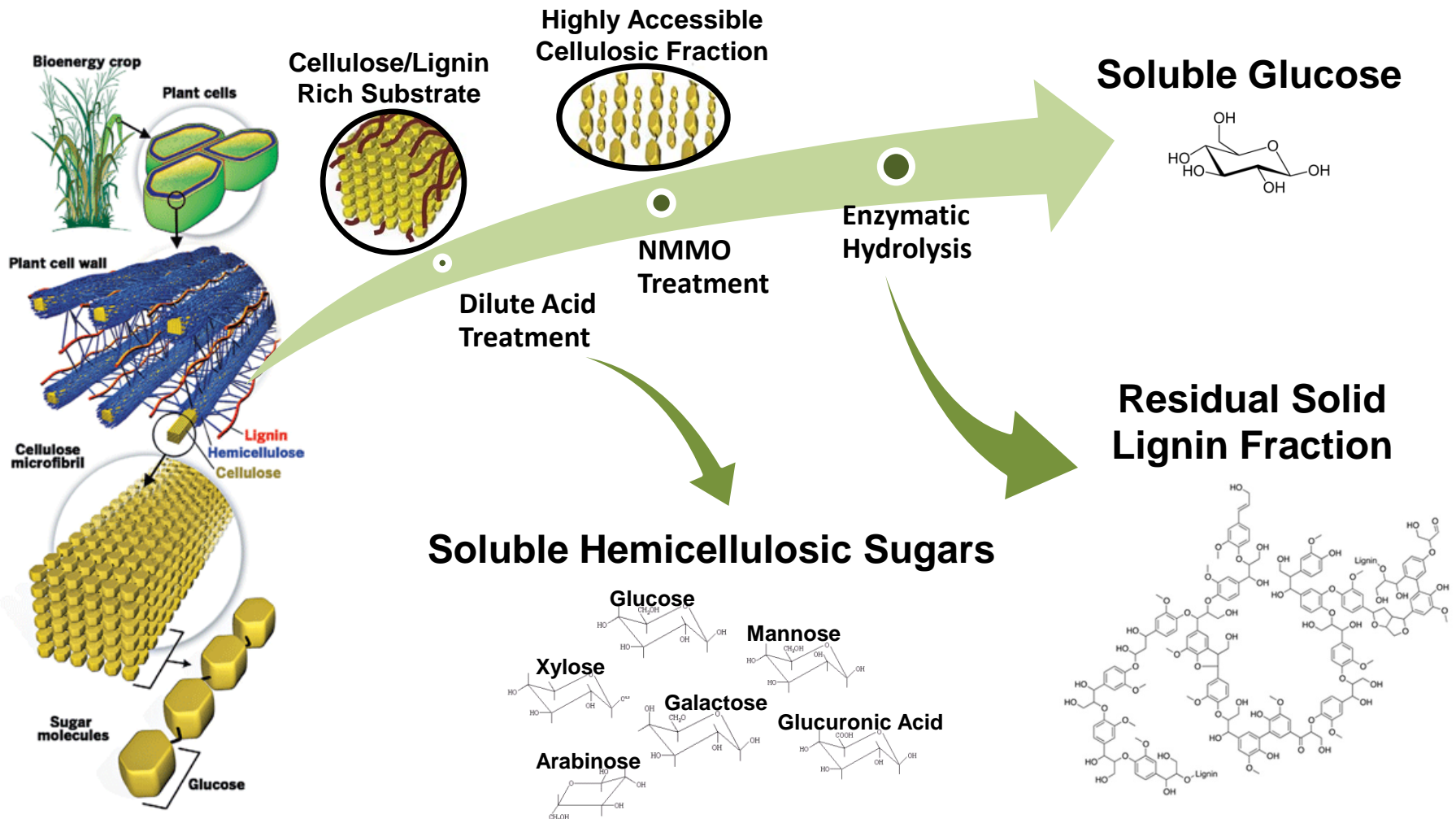


Electric energy & power



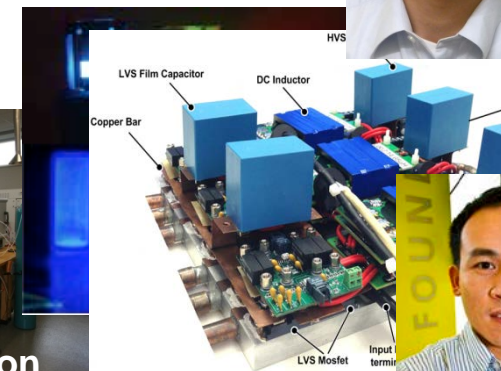
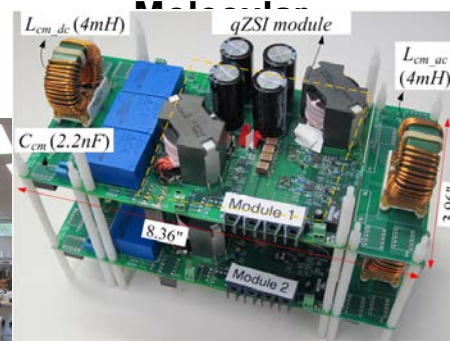
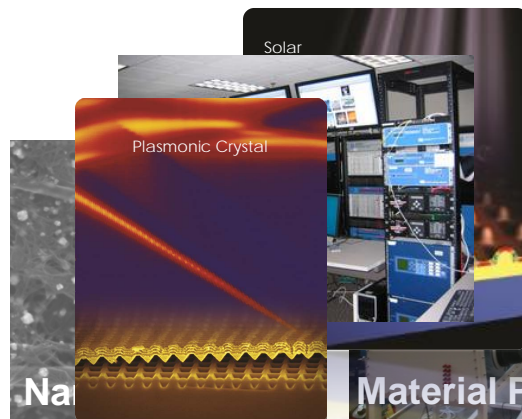
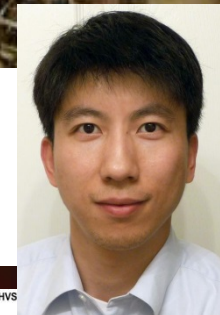
Biomass to Biofuels Research

- **Objective:** To develop a biorefinery concept to produce biofuels and value added chemicals in an economic, efficient and continuous manner.
- *S. Ramakrishnan, J. Telotte and J. Collier (Chem. Eng.)*



Electric and Solar Energy Research

- Battery research (AME)
 - Materials synthesis, characterization, modeling, and packaging
- Power grids (CAPS)
 - Control systems, hardware-in-the-loop
- Solar energy (Chem./Physics/Eng.)
 - Photonic materials research



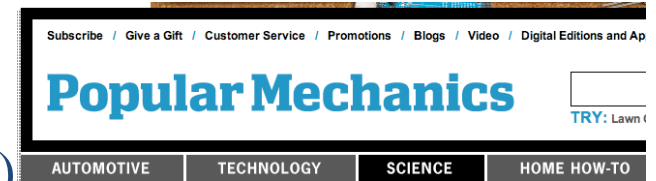
Material Preparation

Characterization

Room

Wind Energy and Flow Control

- *Steven Cook & Shawn Smith (COAPS), Mark Powell (NOAA)*
- Physical based models predict loss (on average) of 2 turbines vs. prior prediction of 24 turbines
- *Rajan Kumar and Farrukh Alvi (Mech. Eng.)*
- Polysonic Wind Tunnel:
 - Large Mach number range (0.2 to 5), 12-in. test section and advanced diagnostics is a unique, shared resource
 - NSF MRI (\$3.3M) & FSU AME \$25M facility



Homepage / Science / Energy / Solar & Wind / Will Hurricanes Wipe Out Offshore Wind Farms?

Will Hurricanes Wipe Out Offshore Wind Farms?

A new study says that the high winds of severe storms could wreck nearly half of U.S. offshore wind turbines within a 20-year period. Can turbine builders make hurricane-resistant wind farms?

By Stephanie Warren

Mark D. Powell^{a,1} and Steven Cocke^b

^aNational Oceanic and Atmospheric Administration, Atlantic Oceanographic and Meteorological Laboratories, Hurricane Research Division, Miami, FL 33149; and ^bCenter for Ocean-Atmospheric Prediction Studies, Florida State University, Tallahassee, FL 32310

LETTER

Hurricane wind fields needed to assess risk to offshore wind farms

In their paper in PNAS, Rose et al. (1) applied a statistical model to estimate hurricane wind losses to wind turbines over a 20-y typical wind farm lifetime. They combined a county annual

