



# BOARD *of* GOVERNORS

## State University System of Florida

### Third Annual C. W. Bill Young Federal R&D Agency Workshop Highlights

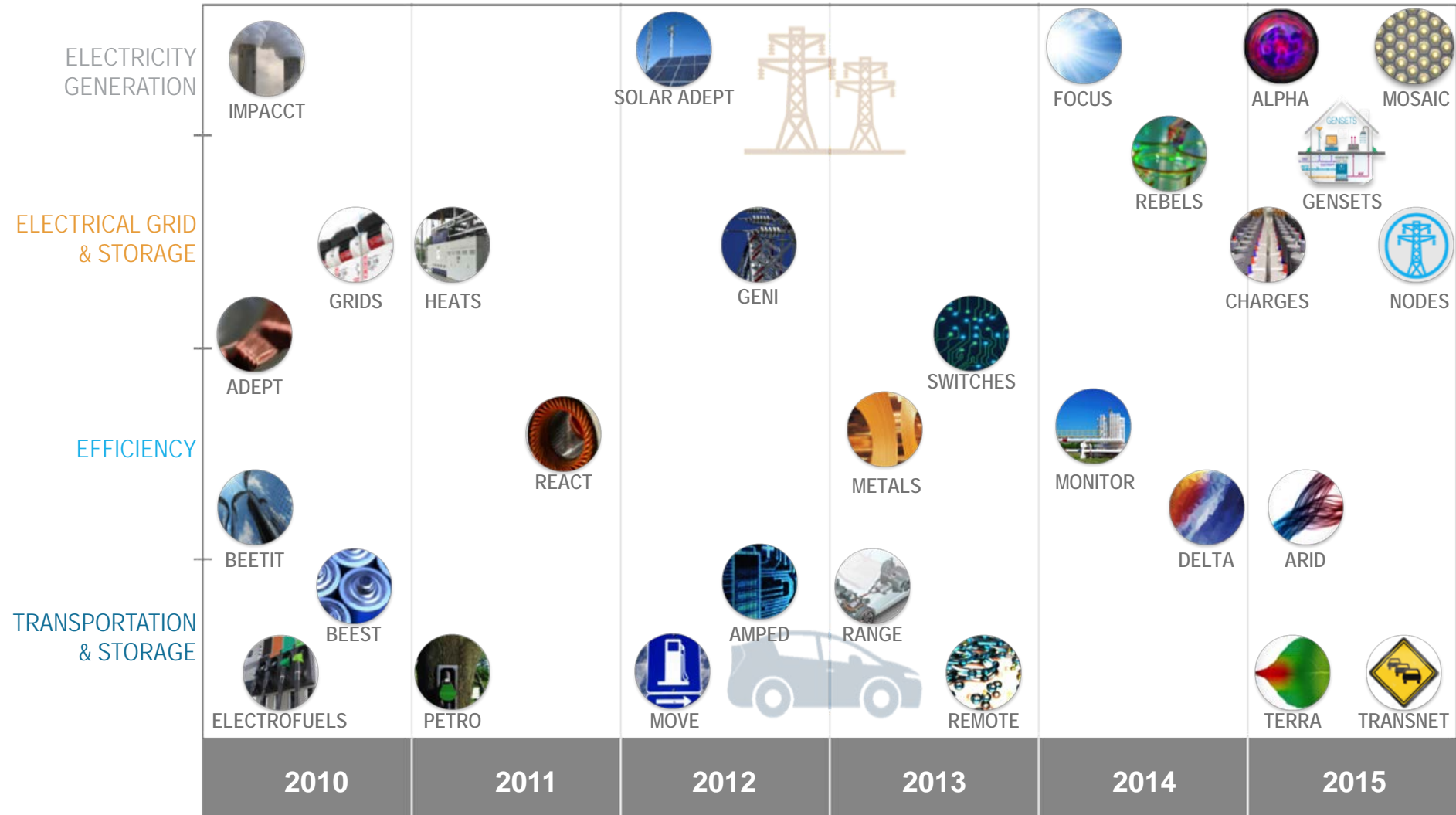
Dr. Jan Ignash, Vice Chancellor, Academic and Student Affairs  
*Presentation to the Academic and Student Affairs Committee*  
November 5, 2015

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# Department of Defense, Defense Advanced Research Projects Agency (DARPA): Breakthrough Technologies for National Security

Rethinking Complex Military Systems	
Electromagnetic Spectrum Dominance	Fully & dynamically control the EM spectrum for communications, sensing, imaging
Position, Navigation, & Timing Beyond GPS	Deliver accuracy without dangerous reliance on GPSS & enable new coherent effects
Air Superiority in Contested Environments	Architect sustainable, cost-effective air superiority over a peer adversary in 2030+
Hypersonics Capability	Prevent peer adversary sanctuary or strategic surprise
Robust Space	Establish confidence in all aspects of space operations despite new threats
Undersea Capabilities	Provide scalable effects from undersea sanctuary
Overmatch Squad	Expand reach, situational awareness, & maneuver for strategic overmatch
Defense Against Terrorism	Create new counters for new mass terror threats
Information at Massive Scale	
Cyber Capability	Wield cyber as a military capability with confidence in our own cybersecurity
Big Data	Extract new capabilities from the data explosion & map behavior patterns at scale
Biology as Technology	
Brain Function Research	Drive & harness fundamental advances in understanding brain function
Engineering Biology	Create new classes of materials that are unattainable through today's chemistry
Outpacing Infectious Disease	Design rapid, specific diagnostics & therapeutics
New Foundations for Technological Surprise	
<i>These focus areas are part of a broad &amp; diverse portfolio of DARPA investments</i>	
<i>Focus areas change over time as some success &amp; graduate &amp; others fail, and as DARPA identifies new challenges &amp; opportunities</i>	

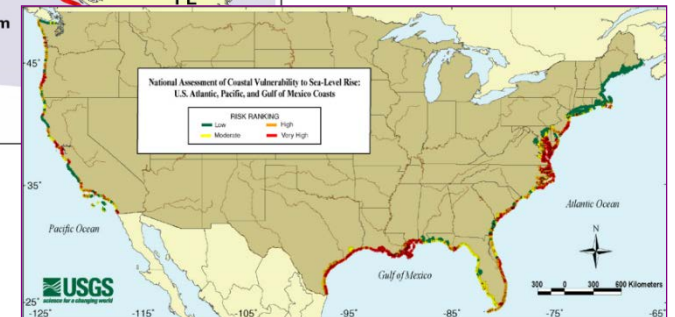
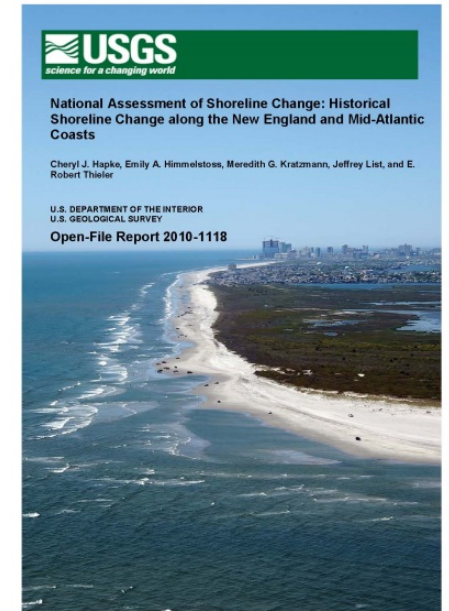
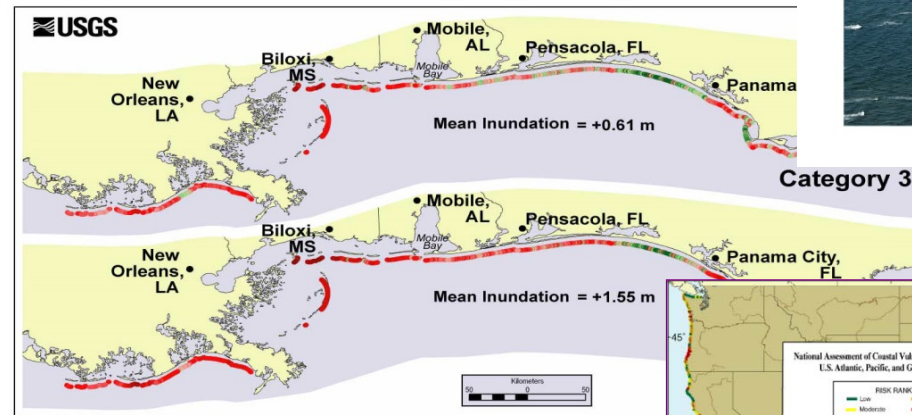
# Department of Energy: ARPA-E Focused Program Portfolio



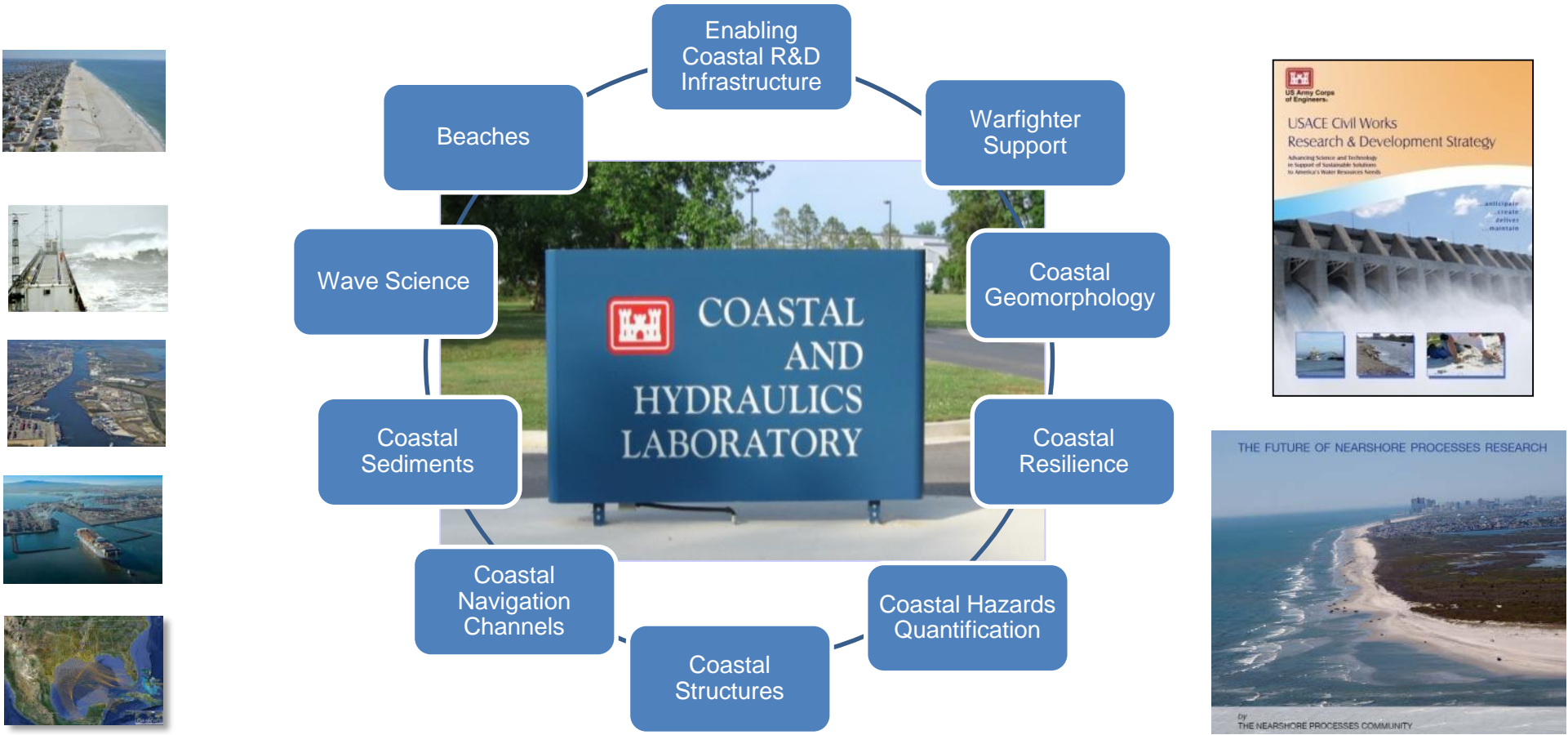
# U.S. Geological Survey: Building National Capacity to Anticipate & Respond to Coastal Change Hazards

## Storms, Erosion and Climate Change

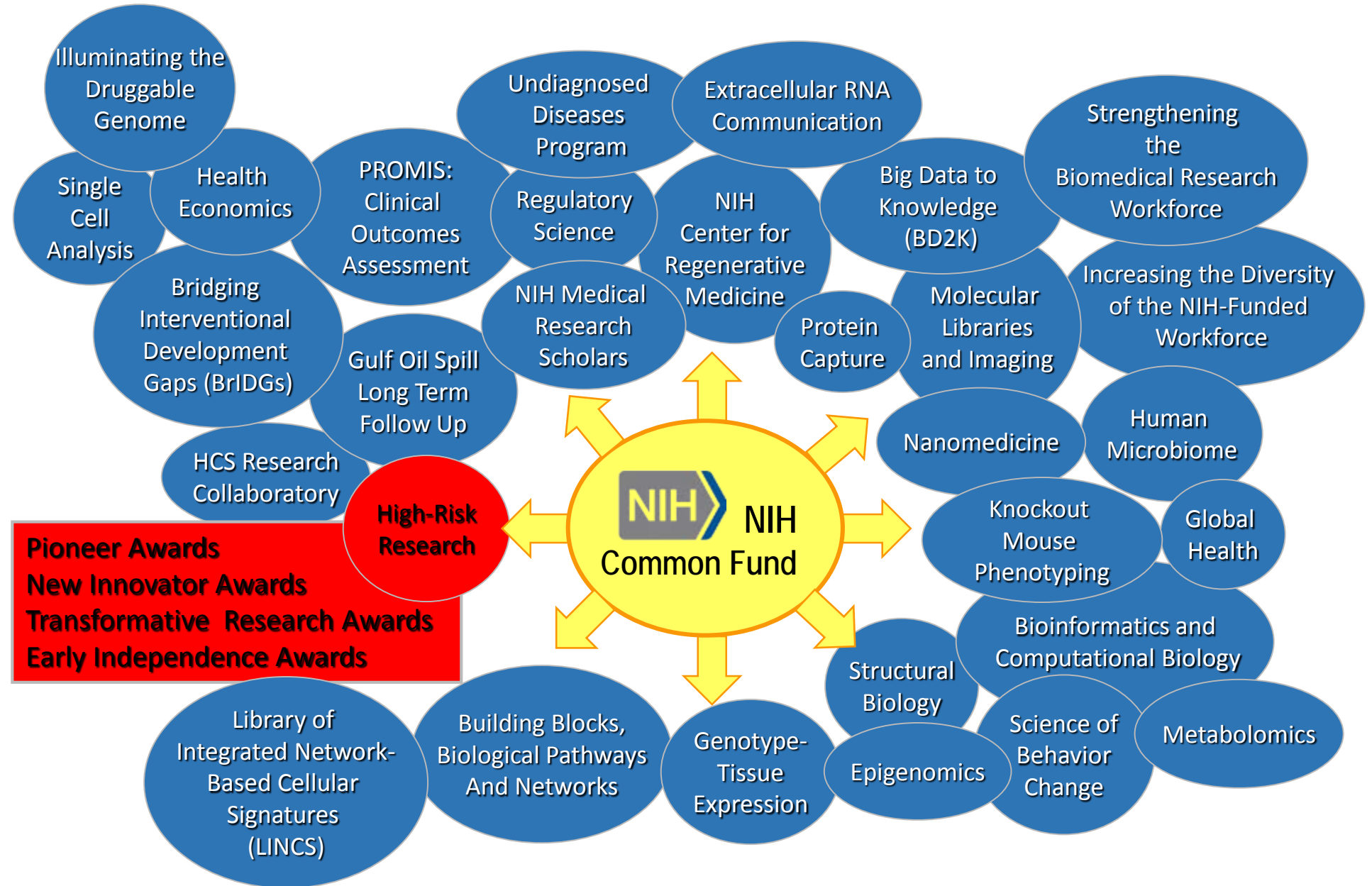
- Geologic, Geomorphic and Oceanographic Observations
- Research
- Models, Forecasts, and Assessments
- Delivery Mechanisms



# U.S. Army Engineer Research & Development Center, Coastal & Hydraulics Laboratory: Capabilities & Research Needs



# National Institutes of Health: Current Common Fund Programs



Text





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