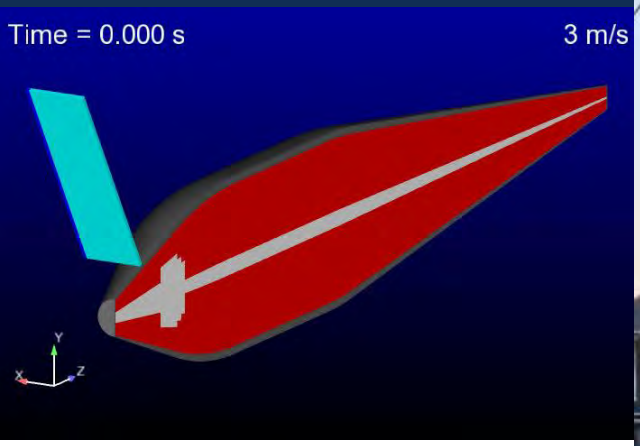
SAND2015-6885 C

Exceptional service in the national interest

Sandia National Laboratories



Opportunity for Collaboration

Jesse Roberts

Water Power Technologies

U.S. DEPARTMENT OF ENERGY

NNSA National Nuclear Security Administration

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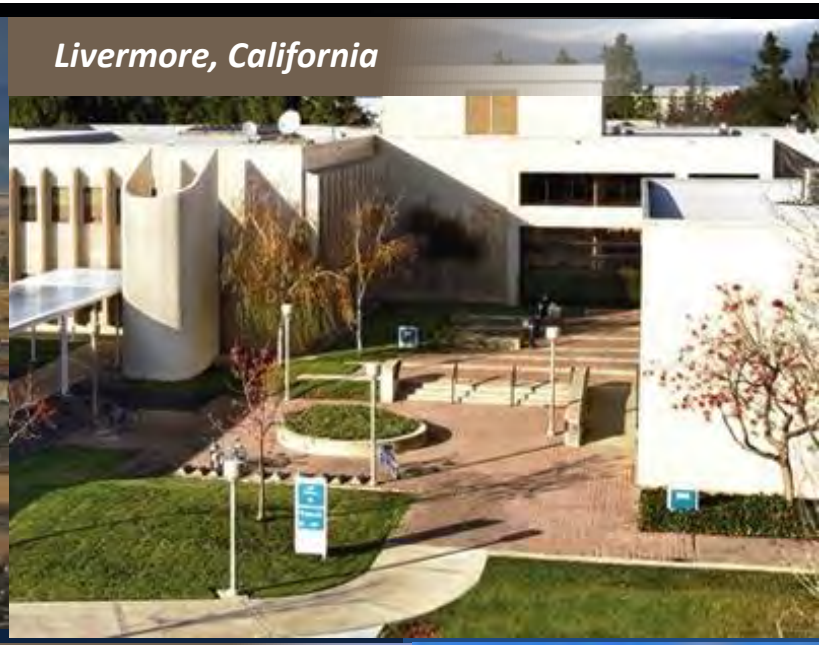
Sandia Sites

Sandia National Laboratories

Albuquerque, New Mexico

Livermore, California



Kauai, Hawaii

Waste Isolation Pilot Plant, Carlsbad, New Mexico

Pantex Plant, Amarillo, Texas

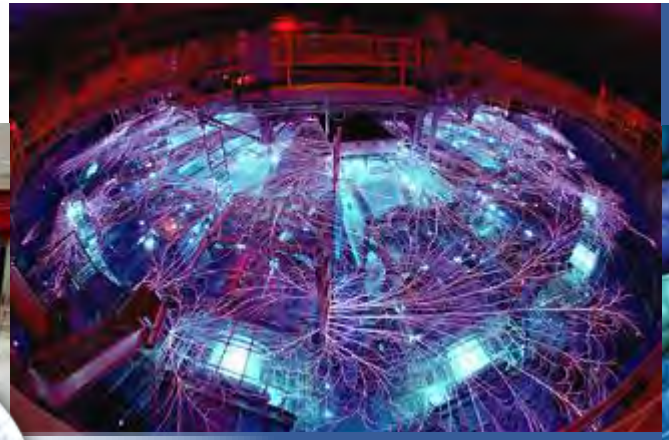
Tonopah, Nevada

Strong Research and Engineering Foundation

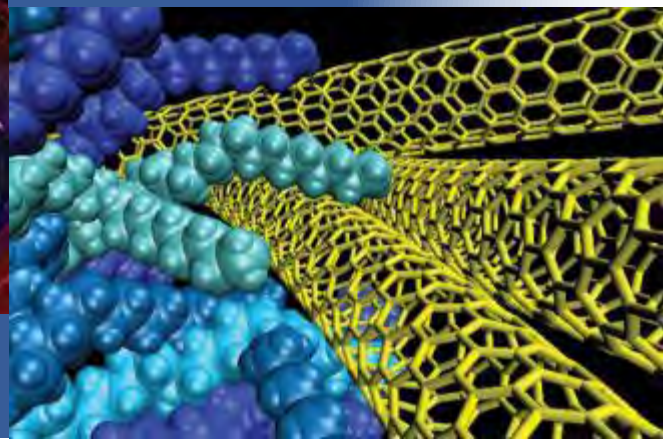
Sandia National Laboratories

Computing & Information Sciences

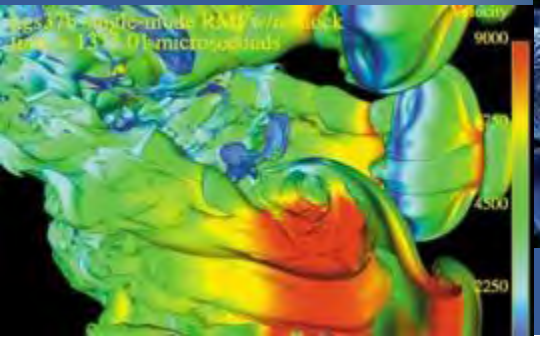
Radiation Effects & High Energy Density Science



Materials Sciences



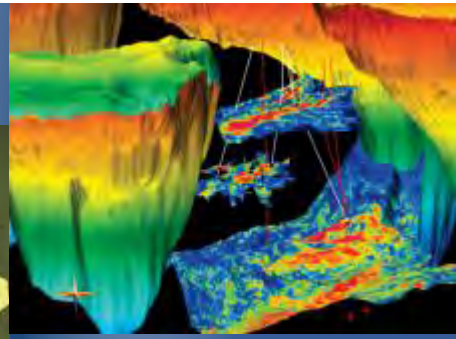
Engineering Sciences



Bioscience

Nanodevices & Microsystems

Geoscience



Energy & Climate

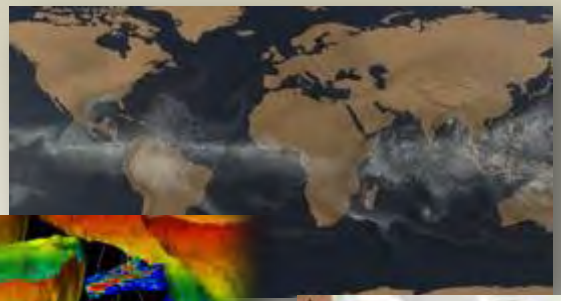
Sandia National Laboratories

Energy Research

ARPAe, BES Chem Sciences, ASCR, CINT, Geo Bio Science, BES Material Science

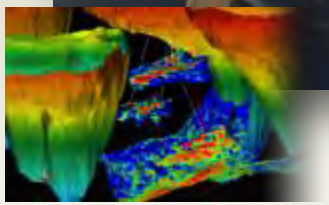
Climate & Environment

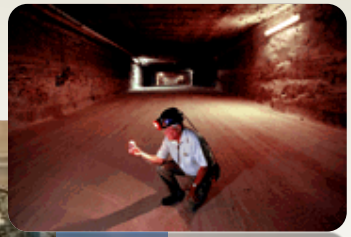
Measurement & Modeling, Carbon Management, Water & Environment, and Biofuels



Nuclear Energy & Fuel Cycle

Commercial Nuclear Power & Fuel, Nuclear Energy Safety & Security, DOE Managed Nuclear Waste Disposal



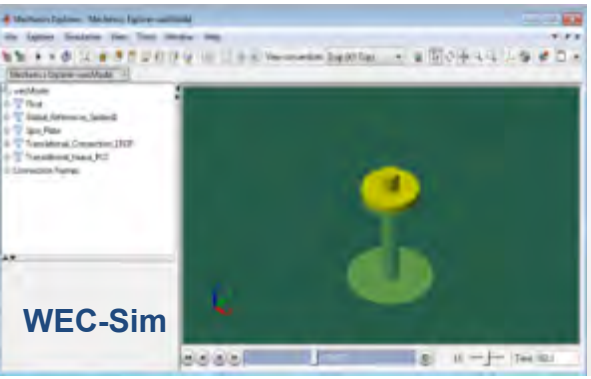


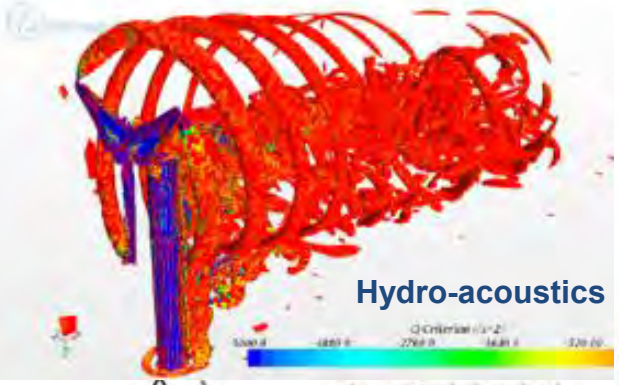
Renewable Systems & Energy Infrastructure

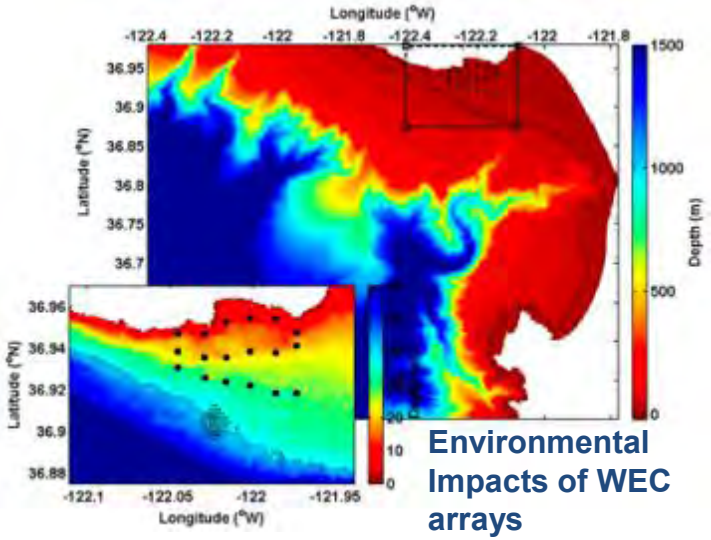
Renewable Energy, Energy Efficiency, Grid and Storage Systems

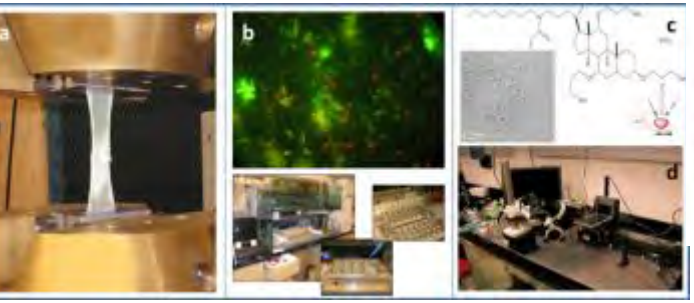
Transportation Energy & Systems

Vehicle Technologies, Biomass, Fuel Cells & Hydrogen Technology

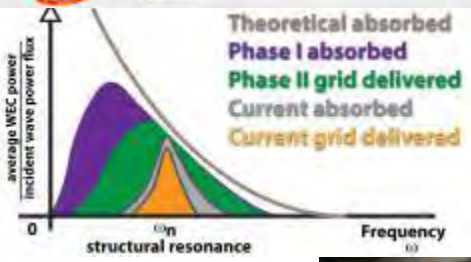








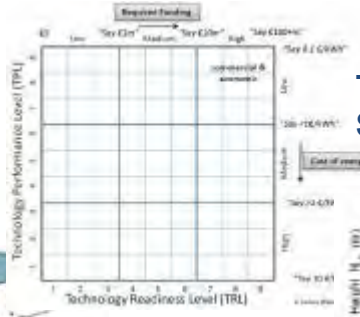
Structural Composites and Material Coatings



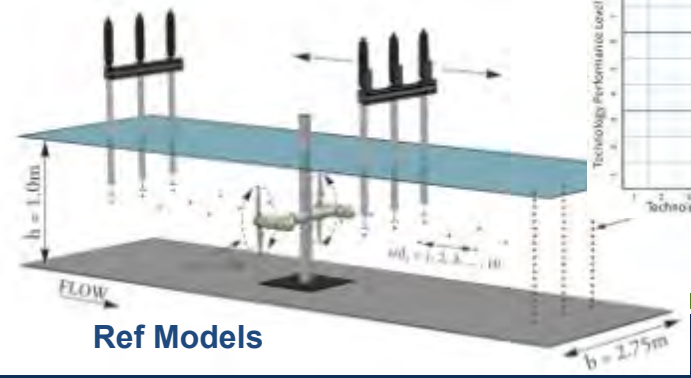
Resilient Non-linear Controls

DTOcean

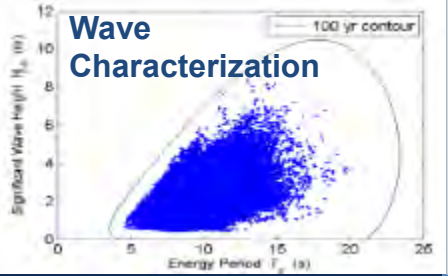
WAVE ENERGY PRIZE
U.S. DEPARTMENT OF ENERGY



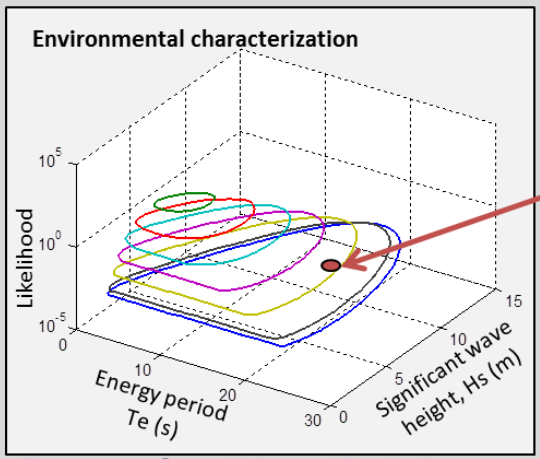
TPL-TRL Structured Innovation



Ref Models

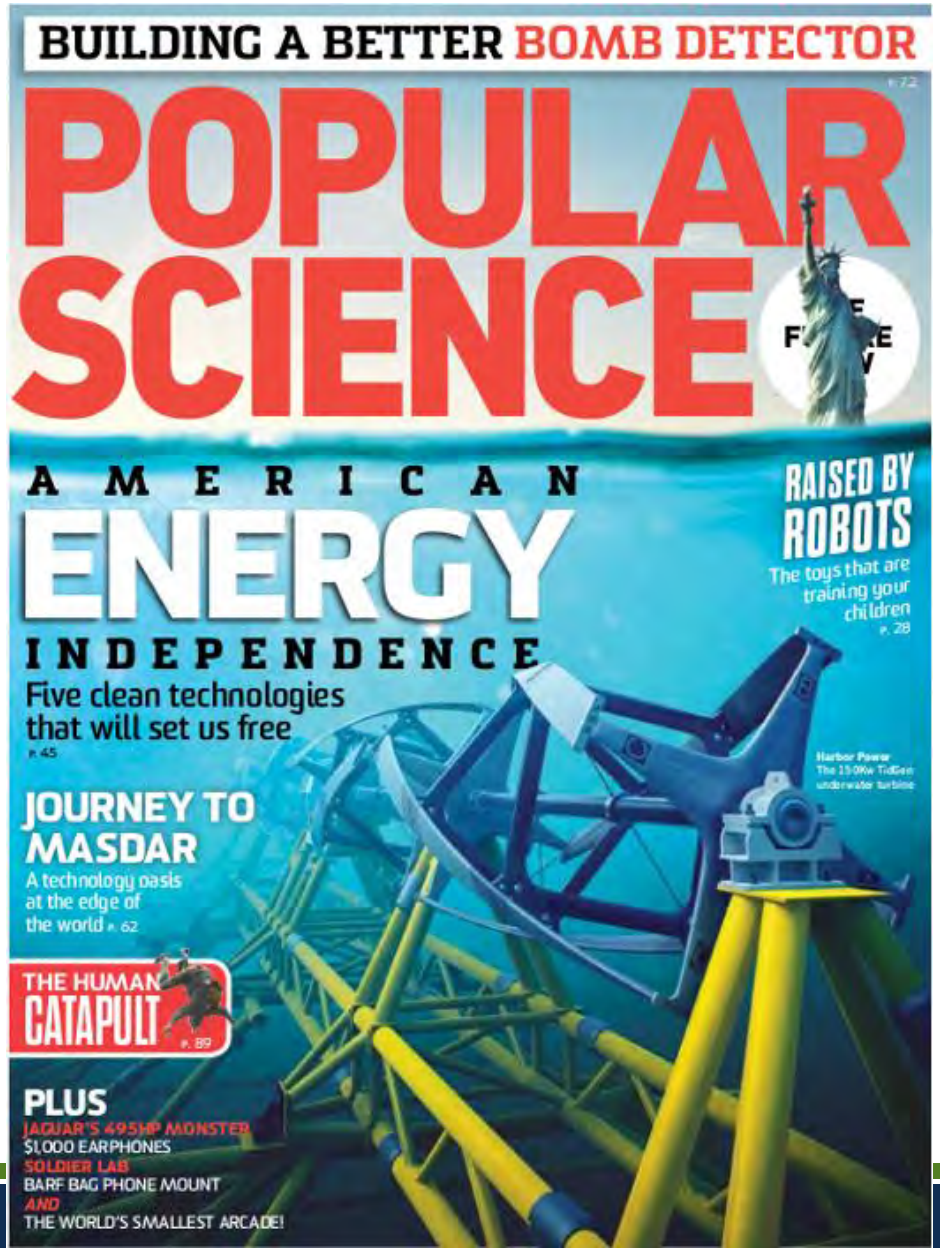


Wave Characterization



Extreme Conditions Modeling

Recent Example of "SBV-like" Collaboration



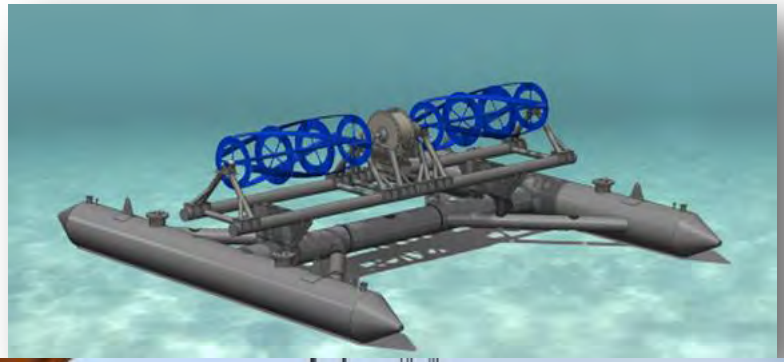
Field testing of ORPC's RivGen® prototype turbine was not matching performance values predicted from ORPC simulation

ORPC approached DOE/Sandia to identify the cause of the mismatch

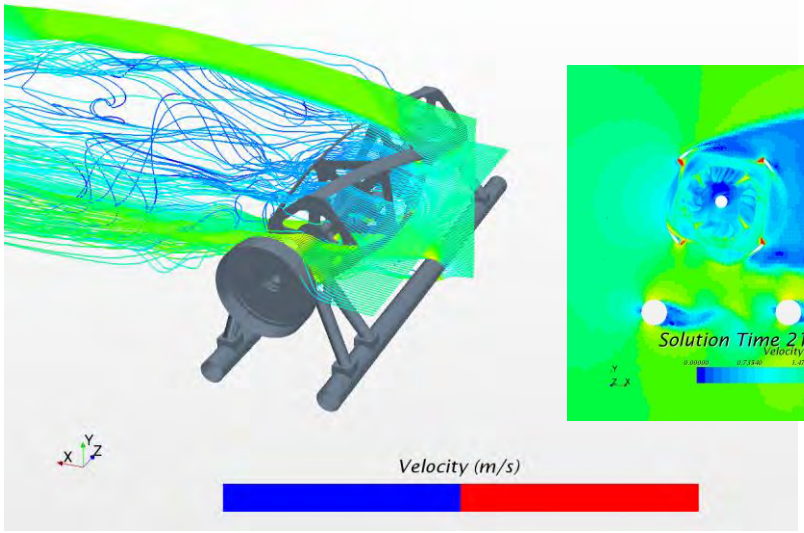
Quick Leveraging of Existing Capabilities

Sandia National Laboratories

ORPC
OCEAN RENEWABLE POWER COMPANY



Sandia leveraged HPC and expertise from past wind energy research



Identified fundamental simulation limitation, ORPC now redesigning product

Photo courtesy of
Ocean Renewable Power Company

Summary

- The Small Business Voucher program provides the most direct mechanism to date for industry-national laboratory collaboration.
- Sandia has capabilities in technology development, resource characterization, and environmental impacts
- Contact for further information / discussion

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