OAK RIDGE National Laboratory

U.S. DEPARTMENT OF ENERGY

A PARTNER IN DOE'S SciDAC:

Scientific Discovery through Advanced Computing

Office of Science U.S. DEPARTMENT OF ENERGY

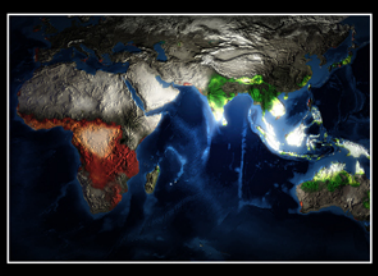
NNSA

NSF

ORNL Participation in SciDAC-2

ORNL is the lead on five SciDAC-2 awards (three of the thirty announced by DOE and two SAPs) and participating in seventeen of the thirty awards announced September 7. ORNL researchers are participating in three other continuing projects from SciDAC.

CLIMATE



A Scalable and Extensible Earth System Model for Climate Change Science
ORNL: John Drake (PI), David Erickson, Forrest Hoffman, and Patrick Worley

associated SAP: Performance Engineering for the Next Generation Community Climate System Model
ORNL: Patrick Worley (PI)

FUSION ENERGY

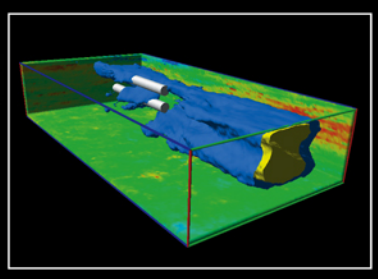
Framework Application for Core-Edge Transport Simulations (FACETS)
ORNL: Mark Fahey, Patrick Worley

associated SAP: Steady State Gyrokinetic Transport Code
ORNL: Mark Fahey (PI), Patrick Worley

Simulation of Wave Interactions with Magnetohydrodynamics
ORNL: Don Batchelor(PI), David Bernholdt, Ed D'Azevedo, Wael Elwasif, George Fann, Jim Kohl, Lee Berry, Don Spong, Wayne Houlberg, Fred Jaeger

Center for Plasma Edge Simulation
ORNL: David Schultz (ORNL PI), Scott Klasky (co-PI), Ed D'Azevedo, Patrick Worley

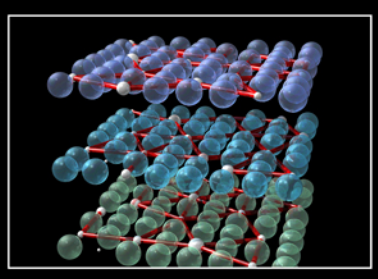
GROUNDWATER



Modeling Multiscale-Multiphase-Multicomponent Subsurface Reactive Flows using Advanced Computing
ORNL: Richard Tran Mills

Hybrid Numerical Methods for Multiscale Simulations of Subsurface Biogeochemical Processes
ORNL: Scott C. Brook

MATERIALS AND CHEMISTRY

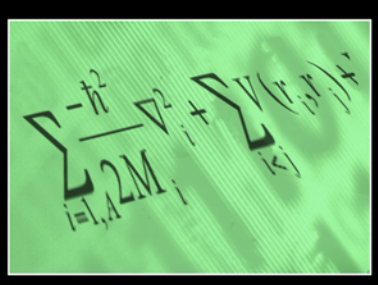


Next Generation Multi-Scale Quantum Simulation Software for Strongly Correlated Materials
ORNL: Thomas Maier (co-PI), Ed D'Azevedo

Advanced Methods for Electronic Structure
ORNL: Robert Harrison (PI), George Fann

associated SAP: Advanced Mathematics for Electronic Structure
ORNL: George Fann (PI), Robert Harrison

Applied Mathematics



Center for Interoperable Technologies for Advanced Petascale Simulations (ITAPS)
ORNL: Ed D'Azevedo and Ahmed Khamayseh

Computer Science

The Scientific Data Management Center for Enabling Technologies
ORNL: Scott Klasky, Nagiza Samatova, and Jeffrey Vetter

Center for Technology for Advanced Scientific Component Software (TASCS)
ORNL: David Bernholdt (PI), Wael Elwasif and Jim Kohl

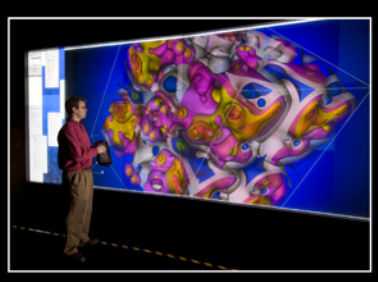
Scaling the Earth System Grid to Petascale Data Center for Enabling Technologies
ORNL: David Bernholdt, Meili Chen, Line Pouchard and Jens Schwidder

Center for Scalable Application Development Software
ORNL: Jack Dongarra (UTK)

Performance Engineering Research Institute
ORNL: Jack Dongarra (UTK), Shirley Moore (UTK), Jeffrey Vetter, Patrick Worley

Petascale Data Storage Institute
ORNL: Philip Roth

Visualization



Visualization and Analytics Center for Enabling Technologies (VACET)
ORNL: Sean Ahern, George Ostrouchov, Jeremy Meredith

Institute for Ultrascale Visualization
ORNL: Jian Huang (UTK)

ORNL 2007-G01222/DLR