



# ORNL RAMS & HBCU Program

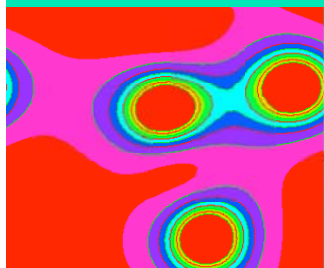
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G. Seweryniak  
DOE-HQ

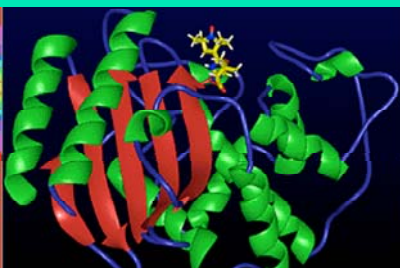
[seweryni@er.doe.gov](mailto:seweryni@er.doe.gov)  
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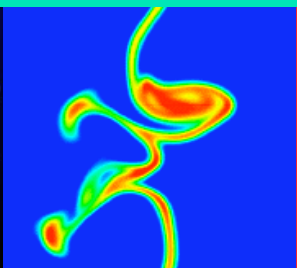
# ASCR Research and Facilities Contribute to the Success of the Nation



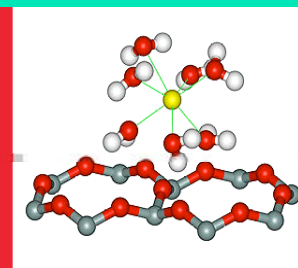
Vortices in a superfluid



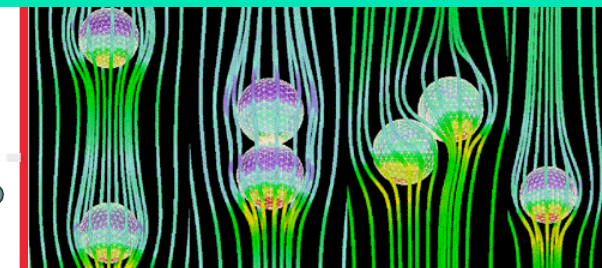
Protein dynamics



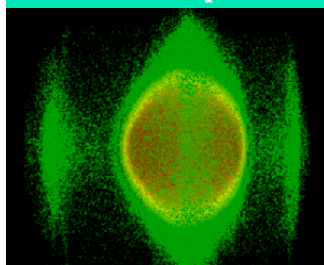
Turbulent methane flame



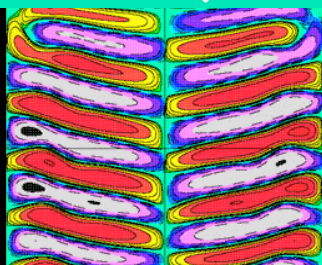
Clay-mineral geochemistry



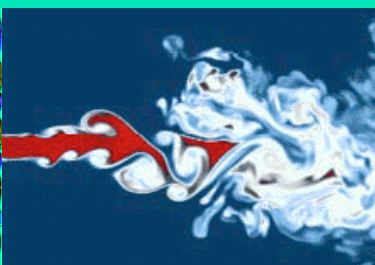
Two spheres mixing in a stream



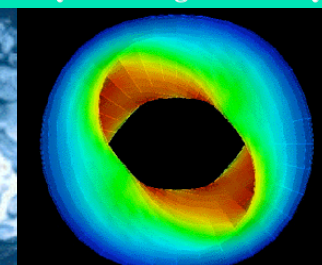
HEP particle beam halo



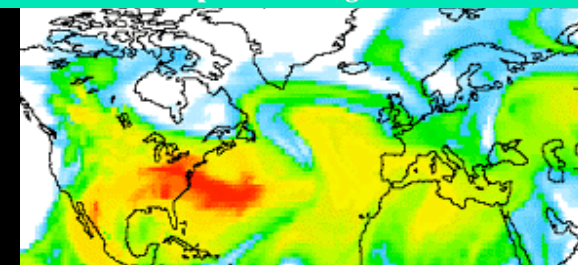
Transport barrier dynamics



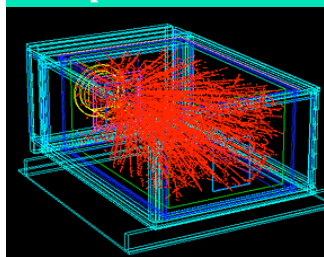
Combustion turbulence modeling



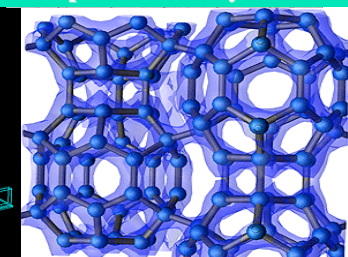
Fusion magnetic field



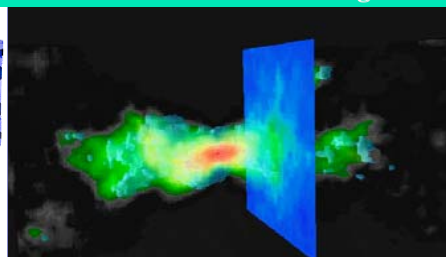
Perturbation in clear-sky and cloud albedo



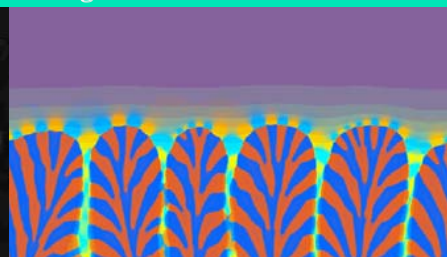
Au-Au collision



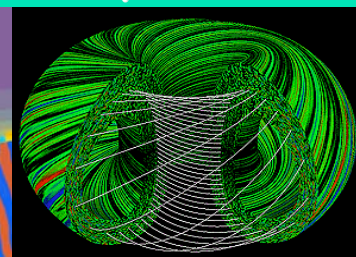
Crystal structure for  $C_{36}$  solid



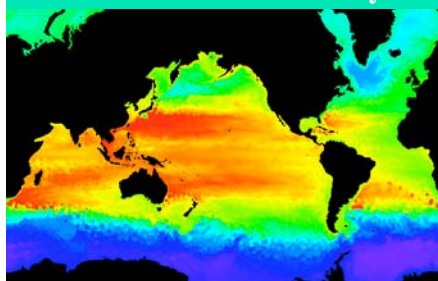
Lattice quantum chromodynamics



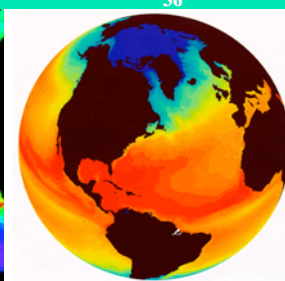
Binary alloy solidification



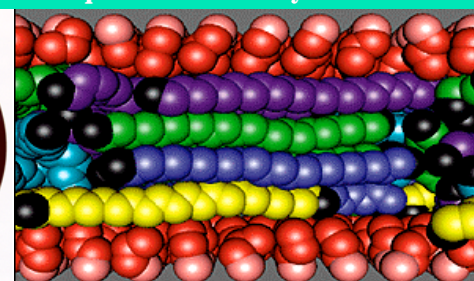
Perturbed plasma density



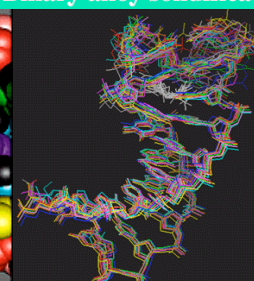
DOE Parallel Climate Model



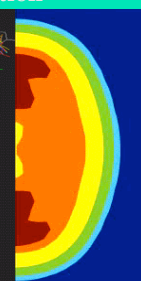
Sea surface temperature



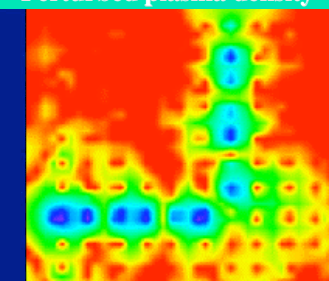
Molecular simulation of complex fluids



Structural biology



Nuclear theory



Waveguide optics



# HBCU Program

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- ***Need to develop scientific talent for the next generation***
- ***Develop and expand research and educational relationships with historically black colleges and universities (HBCU) and other minority educational institutions.***
- ***Key Components***
  - ORNL RAMS Program
  - Directly Funded Universities



# DOE Organization

How does it all fit together

- ***U.S Department of Energy (DOE)***
    - ***Office of Science (DOE-SC)***
      - ***Office of Advanced Scientific Computing Research (OASCR)***
        - ***Mathematical, Information and Computational Sciences Department (MICS)***
          - **Program Manager (G. Seweryniak)**
            - HBCU (FY04-\$0.4M,FY05-\$1.0M,FY06-\$1.6M)
            - ORNL RAMS Program (\$250k)
            - Directly Funded Universities (6 - \$1.3M)
            - CSGF (\$3.5M)
            - <http://www.krellinst.org/csgf/index.shtml>
- See FY2005 Accomplishments CD - [Open the file contents.htm](#)



# How Does it Work

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- ***ORNL RAMS Program***
  - ***Contact Debbie McCoy***
    - <http://www.csm.ornl.gov/Internships/RAMS.html>
- ***Directly Funded HBCU university***
  - ***Send white paper (2 pages max) to me***
    - [seweryni@er.doe.gov](mailto:seweryni@er.doe.gov)
  - ***Submit Formal Proposal***
    - <http://www.science.doe.gov/grants/>
  - ***Be patient ( 4- 6 months time lag)***
  - ***Check Status monthly (email)***