**Multiscale/Multiphysics Session**

- **Broad Discussion Points**
  - What do we mean by multiscale and multiphysics?
    - **Multiphysics**: Can occur via integration of various codes or integration of various equations/numerical techniques or both.
    - **Multiscale**: Spatial/temporal domains of varying resolution (e.g. AMR or adaptive time stepping)
  - Magma dynamics (magma/mantle convection) and subduction zone problems arose as potential focus areas.
  - Software engineering challenges exist in this area.
  - Using a common mesh across codes is a “typical” mechanism for code coupling.
  - Some feel a clearer argument needs to be made for the need to pursue multiscale/multiphysics.
  - Applications in other disciplines (e.g. integrated thermal/structural/optical modeling) provided some context for discussion along with examples in surface deformation (GeoFEST) and magnetospheric flow
  - “Homogenization” was raised as a technique for multiscale modeling during the report summary