

SES11-2011-000047

Abstract for an Invited Paper  
for the SES11 Meeting of  
the American Physical Society

### **Open Science Grid: Linking Universities and Laboratories In National Cyberinfrastructure**

PAUL AVERY, University of Florida

Open Science Grid is a consortium of researchers from universities and national laboratories that operates a national computing infrastructure serving large-scale scientific and engineering research. While OSG's scale has been primarily driven by the demands of the LHC experiments, it currently serves particle and nuclear physics, gravitational wave searches, digital astronomy, genomic science, weather forecasting, molecular modeling, structural biology and nanoscience. The OSG distributed computing facility links campus and regional computing resources and is a major component of the Worldwide LHC Computing Grid (WLCG) that handles the massive computing and storage needs of experiments at the Large Hadron Collider. This collaborative work has provided a wealth of results, including powerful new software tools and services; a uniform packaging scheme (the Virtual Data Toolkit) that simplifies software deployment across many sites in the US and Europe; integration of complex tools and services in large science applications; multiple education and outreach projects; and new approaches to integrating advanced network infrastructure in scientific computing applications. More importantly, OSG has provided unique collaborative opportunities between researchers in a variety of research disciplines.