

## Extending CERN computing to volunteers - LHC@home consolidation and outlook

*Monday, July 9, 2018 3:15 PM (15 minutes)*

LHC@home has provided computing capacity for simulations under BOINC since 2005. Following the introduction of virtualisation with BOINC to run HEP Linux software in a virtual machine on volunteer desktops, initially started on the test BOINC projects, like Test4Theory and ATLAS@home, all CERN applications distributed to volunteers have been consolidated under a single LHC@home BOINC project. As part of an effort to unite CERN's batch, cloud, grid and volunteer computing efforts, the BOINC service has been integrated with the other computes services at CERN, notably HTCondor, in terms job submission and accounting. The paper will also address contributions to improve the BOINC software and community effort to evolve BOINC for a sustainable volunteer computing environment. Furthermore, we discuss future challenges to reduce the effort required by volunteers to run virtual machines for experiment simulations and improvements to BOINC to widen the appeal of volunteer computing.

**Primary authors:** FIELD, Laurence (CERN); GIANNAKIS, Nikolas (University of Patras (GR)); HOIMYR, Nils (CERN); CAMERON, David (University of Oslo (NO))

**Presenter:** CAMERON, David (University of Oslo (NO))

**Session Classification:** T3 - Distributed computing

**Track Classification:** Track 3 – Distributed computing