The LPC is the local (US) center of excellence for CMS physics

The LPC serves as a critical link for remote physicists to participate directly in the CMS experiment effectively, economically and transparently.

More than 350 users and 100 residents
LPC users directly contributed to 50% of ~200 CMS publications
The LPC is a way to attain critical mass for 50 U.S. university groups

Nearly 700 CMS collaborators use the Fermilab LPC computing cluster with 22 Pb of storage and 3300 local and 6400 global nodes for data processing and analysis

Across all major areas of physics:
- Precision electroweak measurements
- QCD measurements
- Searches for new physics phenomena
- Searches for supersymmetric particles
- Top quark physics
- Measurements related to heavy quark physics
- Heavy ion physics
- Studies of future collider reach and capability

LPC experts contributed to the performance of key physics ingredients such as tracking and vertexing, triggering, jets, b-tagging, muons, electrons, taus, photons, and missing energy

The LPC is significantly involved in all major areas of physics at the LHC

Members from the LPC played an important role in the data analysis for the main Higgs search channels

H → ZZ → 4l
“the golden channel”, versatile mode with clean, distinctive signature

Higgs properties
to understand the nature of the Higgs

H → WW → lνlν
“the workhorse channel” sensitive over a large search mass range

H → bb and H → ττ
challenging search modes probing couplings of the Higgs to fermions