

THE NEXT FRONTIER

EXPLORING WITH THE LHC

XXXIV SLAC SUMMER INSTITUTE

JULY 17-28, 2006

STANFORD LINEAR ACCELERATOR CENTER

SCHOOL LECTURES

- Welcome to the Terascale
- Theory of Proton-Proton Collisions
- The Large Hadron Collider
- TeV Colliders and the Cosmos
- Higher Order QCD
- Detectors at the LHC
- Tracking Systems
- Pixel Vertex Detectors
- Electromagnetic Calorimetry
- Hadron Calorimetry
- Muon Detection
- Triggering
- LHCb Physics and Detector
- How to Find the Higgs
- How to Discover SUSY
- Top and Precision EW Physics
- Beyond Higgs and SUSY
- LHC and ILC
- Cosmic Acceleration Mechanisms
- LHC: The First Five Years

- Guido Altarelli
- James Stirling
- Lyn Evans
- Michael Peskin
- Lance Dixon
- Jos Engelen
- Guido Tonelli
- Norbert Wermes
- Ren Yuan Zhu
- Jim Proudfoot
- Frank Taylor
- Paris Sphicas
- Tatsuya Nakada
- Chris Tully
- Giacomo Polesello
- Tim Tait
- Graham Kribs
- Hitoshi Murayama
- Don Ellison
- Ian Hinchliffe

THEME

Exploration of physics at the TeV scale holds the promise of addressing some of our most basic questions about the nature of matter, space, time, and energy. The Large Hadron Collider at CERN will break into this new energy frontier when it begins operation next year and the LHC detectors will then begin their prospecting for gold. The 2006 SLAC Summer Institute will focus on the physics and detectors of the LHC. In addition to the school lectures, there will be talks on recent results from particle and astroparticle physics, and poster and discussion sessions.

SPONSORSHIP

The SLAC Summer Institute is hosted by Stanford University and co-sponsored by the US Department of Energy and the Stanford Linear Accelerator Center.

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Painting by Peter Brunotte