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Séminaires du LPNHE

Lundi 24 Octobre 2016, 14 :00
LPNHE, Amphitheatre Georges Charpak
Domaines : hep-ex

Titre : *A Bridge Too Far : The Demise of the Superconducting Super Collider*

Orateur : **Michael Riordan**

Résumé : *In October 1993 the US Congress terminated the Superconducting Super Collider—at over $10 billion the largest and costliest basic-science project ever attempted. It was a disastrous loss for the nation's once-dominant high-energy physics community, which has been in a slow decline since then. With the 2012 discovery of the Higgs boson at CERN's Large Hadron Collider, Europe has assumed world leadership in this field.*

A combination of fiscal austerity, continuing SSC cost overruns, intense Congressional scrutiny, lack of major foreign contributions, waning Presidential support, and the widespread public perception of mismanagement led to the project's demise nearly five years after it had begun. Its termination occurred against the political backdrop of changing scientific needs as US science policy shifted to a post-Cold War footing during the early 1990s. And the growing cost of the SSC inevitably exerted undue pressure upon other worthy research, thus weakening its support in Congress and the broader scientific community.

As underscored by the Higgs boson discovery, at a mass substantially below that of the top quark, the SSC did not need to collide protons at 40 TeV in order to attain its premier physics goal. The selection of this design energy was governed more by politics than by physics, given that Europeans could build the LHC by eventually installing superconducting magnets in the LEP tunnel under construction in the mid-1980s. In hindsight, there were good alternative projects the US high-energy physics community could have pursued that did not involve building a gargantuan, multibillion-dollar machine at a green-field site in Texas.

Michael Riordan is author of The Hunting of the Quark as well as coauthor of Crystal Fire, The Shadows of Creation, The Solar Home Book and, most recently, Tunnel Visions: The Rise and Fall of the Superconducting Super Collider (Chicago, 2015). He was awarded a Guggenheim Fellowship in 1999, and received the Andrew W. Gemant Award from the American Institute of Physics in 2002.