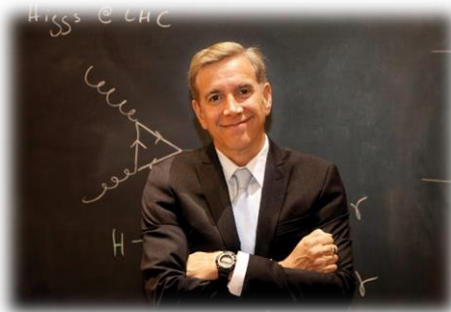


THE 61ST ANNUAL FACULTY RESEARCH LECTURE

Joseph Incandela

Searching for the Genetic Code of our Universe

Monday, October 17, 2016 / FREE
4:00 PM Reception/ 5:00 PM Lecture
Corwin Pavilion
University Center



The 2012 discovery of the Higgs boson at the CERN LHC accelerator complex completes a powerful and comprehensive description of nature known as the standard model of particle physics. The next step is to find the new physics that underpins this model, which many physicists believe could solve mysteries first seen in astrophysical and cosmological data, such as dark matter and neutrino mixing. Professor Incandela will give a general overview of where things stand and what's being planned, including his own research plans to address these very fundamental questions about the universe.

Joseph Incandela received his PhD from the University of Chicago under Professor Henry Frisch in 1986 for a search for magnetic monopoles using superconducting coils whose currents were measured by Superconducting Quantum Interference Devices. Awarded a CERN Fellowship in 1987, he joined the UA2 experiment at CERN and was a leading contributor to the first precision measurement of the mass of the Z boson. He then proposed and led the first search at a hadron collider for a Higgs boson using hadronic tau decay final states. He joined the CDF experiment as a Wilson Fellow at Fermilab in 1991 where he led silicon detector projects and also led the search for top quarks that provided the most significant contribution to the discovery of the top quark in 1995. With regard to the LHC, he created the US CMS Silicon tracker project in 1997 that eventually constructed and tested ~60% (by area) of the silicon strip tracking system. Professor Incandela was CMS Deputy Physics Coordinator 2007-2009, then CMS Deputy Spokesperson 2010-2011, and the Spokesperson of the CMS experiment for 2012- 2013. He led the experiment at the time of the observation of the Higgs boson, which he announced on July 4, 2012. Since then he has been searching for evidence of supersymmetry and dark matter. Professor Incandela is an elected member of the National Academy of Sciences and a co-recipient of the 3M\$ Breakthrough Prize in Physics for his leadership roles in the experimental program that led to the discovery of the Higgs boson.



The highest honor bestowed upon UCSB professors by their peers, the Faculty Research Lectureship recognizes extraordinary scholarly distinction.

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