Institute for Materials Science

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2016 IMS Summer School: Los Alamos Science Capabilities

Brenda Dingus
LANL Fellow

Detecting the Highest Energy Photons from Astrophysical Sources

Wednesday, July 13, 2016
2:00 PM
Physics Auditorium (TA-03 - Bldg 215 - Room 182)

The IMS Summer School focuses on Science Capabilities at Los Alamos National Laboratory and is designed to expose our visitors to the broad range of great science performed at the Lab. Through the course of **seven talks** and **four site visits**, students will have a unique opportunity to learn about LANL directly from our top scientists and participate in facility tours.

Abstract: The highest energy photons are gamma rays. Gamma rays are produced by particles accelerated in the most extreme magnetic and gravitational fields in the Universe. LANL leads the High Altitude Water Cherenkov (HAWC) TeV gamma-ray observatory located at 14000' elevation near Puebla, Mexico which began operation one year ago. HAWC detects the highest energy gamma rays to study Nature's particle accelerators and to search for new physics at energies above those achievable in man-made accelerators.

Bio: Dr. Brenda Dingus is the Principal Investigator of the High Altitutude Water Cherenkov (HAWC) TeV gamma-ray observatory for the DOE High Energy Physics program. She was the first US Spokesperson of HAWC from 2010-2014 and was the Deputy Project Manager during construction from 2011-2015. She is now the Operations manager. HAWC is the most sensitive, wide field of view,TeV gamma-ray and cosmic-ray detector and the science goals of HAWC include searching for evidence of new physics in the TeV sky, such as gamma-rays from the annihilation or decay of dark matter.

Dr. Dingus is a Fellow at LANL and a Fellow of the American Physical Society(APS) and was a winner of the Presidential Early Career Award for Scientists and Engineers (PECASE) in 2000. Prior to coming to LANL in 2002 she was a tenured professor first at the University of Utah and then at the University of Wisconsin. She has served on various advisory committees, such as the NASA Astrophysics Subcommittee, and has been elected as a member of the executive commitees of the Division of Astrophysics of the APS and the High Energy Astrophysics Division of the American Astronomical Sociey.

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