

# Building on Rich Legacies in both Mining and Transformational Physics Research

Dr. Jaret Heise

Science Director at the Sanford Underground Research Facility (SURF) in Lead, South Dakota

**Abstract:** Building on rich legacies in both mining and transformational physics research, the Sanford Underground Research Facility (SURF) has been operating as a dedicated research facility for over 10 years. A brief overview of the facility and the science program will be presented.

**Biography:** Dr. Jaret Heise is the Science Director at the Sanford Underground Research Facility (SURF) in Lead, South Dakota, having joined the laboratory in September 2008. He graduated with a Ph.D. in particle astrophysics from the University of British Columbia, Vancouver, Canada in May 2002. His accomplishments include participation in the Sudbury Neutrino Observatory (SNO) experiment at an underground laboratory in Canada, where 1000 metric tons of heavy water and roughly 10,000 light sensors were used to resolve the Solar Neutrino Problem that was first posed by Ray Davis based on results from the Homestake Chlorine Experiment. Along with his SNO collaborators, Dr. Heise shared in the 2016 Breakthrough Prize for Fundamental Physics (not to mention that the SNO experiment was further recognized by garnering a share of the 2015 Nobel Prize in Physics!) Dr. Heise went on to hold a postdoctoral position at Los Alamos National Laboratory followed by a leadership role as the SNO Detector Manager based in Sudbury. After the decommissioning of the SNO experiment starting in late 2006, Dr. Heise was involved in the SNO+ project, the successor experiment to SNO that was designed to continue the study of neutrinos. Dr. Heise is thrilled to be involved with world-leading researchers and experiments at SURF that are seeking to answer some of the most fundamental questions of our time in a variety of research disciplines. He has been actively engaged in underground science for more than 20 years and counting...



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