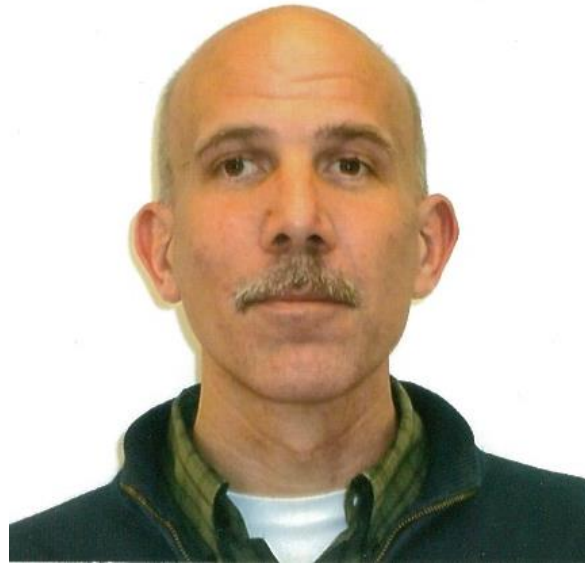


Pete Knudsen



Dr. Pete Knudsen began his career 25 years ago for NASA at the Kennedy Space Center responsible for the engineering and design high pressure gas, cryogenic and specialty fluids used for space shuttle ground-support systems. There he was first immersed into helium cryogenics and was a lead engineer for large projects, performing detailed engineering design, analysis, testing, and technical project oversight. His last position was as a senior staff engineer at the Thomas Jefferson National Accelerator Facility (JLab), where he worked for sixteen years in the Cryogenic Group and was responsible for the detailed process and engineering design of new and modifications to existing helium cryogenic systems as well as supporting cryogenic plant operations. During that time he was involved in the process and mechanical engineering design of cryogenic systems for the lab, as well as, the Spallation Neutron Source at Oak Ridge National Laboratory, NASA's Johnson Space Center, and Brookhaven National Laboratory. He was the lead process engineer for JLab's 12 GeV cryogenic refrigeration system and is responsible for the process design of the Facility for Rare Isotope Beams (FRIB) 2 Kelvin helium refrigeration system at Michigan State University (MSU). He earned his BS in mechanical engineering (ME) from Colorado State University in 1990, and while working full time at JLab, earned his MSc (2008) and PhD (2016) in ME at Old Dominion University. Presently he is a senior cryogenic process engineer for MSU-FRIB, and co-lead to develop a collaboration between MSU ME department and FRIB, cryogenic research initiatives and cryogenic engineering courses (<https://www.frib.msu.edu/science/ase/cryogenic/index.html>). He teaches one graduate and two undergraduate courses in cryogenic engineering at MSU. His research interests are cryogenic refrigeration system process optimization, and the development of sub-systems and key components for these processes; such as compressors, purifiers, heat exchangers, and cryogenic turbo-machinery. He has authored and co-authored over 40 peer-reviewed papers, is a Cryogenic Society of America Fellow (2017), received a certificate of appreciation from NASA JSC (2008) for work on the helium refrigerator supporting James Webb Telescope testing, received the White House Closing the Circle Award for Leadership in Federal Environmental Stewardship (2007) and DOE Office of Science Pollution Prevention and Environment Stewardship P2, 'Best in Class Award' (2006). And, he is a member of Tau Beta Pi, and the Cryogenic Association of America.