Swapnil Shrishrimal

Swapnil Shrishrimal is the Head of Cryogenics Controls Engineering within the AD Cryogenic Division at SLAC National Accelerator Laboratory. He leads a multidisciplinary team responsible for the design, operation, and automation of advanced cryogenic systems supporting some of the most complex and high-performance research infrastructures in the world. Since joining SLAC in 2019, he has played a pivotal role in the commissioning and automation of the two large-scale (4 kW @ 2.0 K) LCLS-II cryoplants, which power the world's most powerful X-ray laser. His development of advanced cryogenic control strategies—including full automation of LINAC fast-cooldown, cooldown from 300 K to 4 K and pumpdown to 2.0 K—has enabled ultra-stable 2 K operation.

Swapnil began his career at Jefferson Lab in Newport News, VA, where he gained hands-on experience in helium refrigeration systems, cryogenic process engineering, and control logic. He supported operations of the Cryogenic Test Facility (CTF) and Central Helium Liquefier (CHL).

In addition to accelerator-based systems, Swapnil has contributed to emerging technologies. He played a key role in the CRADA between SLAC and **PsiQuantum**, a quantum computing company. As part of this collaboration, he led the development of the cryogenic control system for the PsiQuantum cryostat, enabling seamless integration with SLAC's cryogenic infrastructure. His work ensures the ultra-stable cryogenic conditions needed for quantum chip testing and operation.

Swapnil has authored and co-authored numerous technical papers presented at CEC and ICEC conferences, and has served as a peer reviewer for journals such as Physica Scripta, IOP Publishing and for CEC/ICEC conference proceedings. He maintains strong professional relationships with major U.S. DOE laboratories, leading European institutions, and industrial partners.