## PAUL SCHERRER INSTITUT

# **GFA & SwissFEL Accelerator Seminar**

### FCC Superconducting-Magnet Technology Developed at PSI

### Monday, 26 March 2018, 16.00h, WBGB/019

#### Dr. Bernhard Auchmann, PSI

The Future Circular Collider Study (FCC), hosted by CERN, explores high-energy accelerator layouts for the post-LHC era. One of the key challenges for an FCC is the Nb3Sn superconducting-magnet technology. In this context, four design variants are being studied at four European institutes. One of the magnet types, the Canted-Cosine-Theta (CCT) design, is the subject of a PSI R&D program. In this lecture we lay out the key challenges of Nb3Sn magnet technology, as well as the unique way in which the CCT design attempts to tackle these challenges in innovative ways. We discuss recent CCT results achieved by the US Magnet-Development Program at LBNL, Berkeley, US, and lay out their implications for the PSI program. Finally, we outline the PSI R&D program setup, its milestone planning for the coming two years, as well as intermediate-milestone results.

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