Experimental particle physics at CMS and PSI

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Physics analysis in CMS

Study process with Higgs
bosons and heavy quarks and
look for new physics
Skills you learn: physics at the
energy frontier, analysis
techniques, programming and
algorithms, statistical methods,
work within international
collaboration, ...

Modules for CMS pixel detector upgrade

Test and characterize modules for the next CMS pixel detector Skills you learn: hands-on lab work on detector instrumentation, calibration methods, programming and algorithms, ...

CMOS electronics for future pixel detectors

Measure and analyze test structures, electronics and readout chips
Skills you learn: hands-on lab work on chip testing, analog and digital electronics, programming, ...

→ Many projects with duration of 3-12 months

Mu3e experiment at PSI

Work on tracking system for the mu3e experiment Skills you learn: physics at the intensity frontier, hands-on work with particle beams at PSI, analysis methods, programming and algorithms, ...

Spin-off applications of pixel detectors

Contribute to applied research with pixel detectors in other fields at PSI (x-ray imaging at SLS or SwissFEL, muon spin spectroscopy at µSR)
Skills you learn: applied physics, hands-on lab work, simulations, programming, ...

