

From geology to low background physics: The Bedretto underground laboratory under the Gotthard massif

Tuesday, April 14, 2026 2:00 PM (30 minutes)

Deep underground laboratories provide the low-background environments essential for rare-event searches. The Bedretto tunnel, situated under the Gotthard massif in Switzerland, offers an exciting opportunity to establish such a facility. Located within two hours of the University of Zürich, the site is conveniently accessible for iterative detector development and commissioning. The tunnel currently hosts a geology laboratory operated by ETH Zürich, and provides a maximum overburden of approximately 3500 metres water equivalent. We present results from a first measurement campaign, characterising the site's radioactive backgrounds and showing the site's suitability for low background experiments. Looking ahead, we give an overview of the project timeline and discuss the prospects for deploying crystal detectors and dedicated measurement infrastructure underground at Bedretto.

Do you plan to give the talk in person?

Yes

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