

# COLLOQUE DE PHYSIQUE EPFL

EPFL PHYSICS COLLOQUIUM

**Monday, May 22, 2017, 16:15**

**Room CE1**

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University of Zürich

## **Illuminating the dark: direct searches for cold dark matter in the Milky Way**



Cosmological observations and the dynamics of the Milky Way provide strong evidence for an invisible and dominant mass component, that so far reveals its presence only by its gravitational interaction. If the dark matter is made of Weakly Interacting Massive Particles (WIMPs), it can be directly detected via elastic scattering from nuclei in ultra-low background, deep-underground detectors. WIMPs arise naturally in beyond standard model theories, a popular example being the neutralino, or the lightest supersymmetric particle. After an introduction to the direct dark matter detection method, I will review the current experimental techniques to search for these hypothetical particles. The focus will be on recent results, and on the most promising techniques for the future.

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