

Colorado

# CAFÉ SCIENTIFIQUE

Tuesday 19 February 2013

at the Wynkoop Brewing Company

<http://www.wynkoop.com/>

Corner of 18<sup>th</sup> and Wynkoop in LoDo, Denver

*About a block from Light Rail. Thirteen minutes by foot from Auraria.*

## **CLOSING IN ON DARK MATTER:**

*If it's everywhere, why haven't we found it yet?*

Martin E. Huber

Department of Physics

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Evidence abounds that the universe contains much more mass than we "see"—that is, mass that doesn't emit or absorb light. Yet, the nature of this "dark" matter is still unknown; we know it by its gravitational effects, but we've never detected any of it directly. Clues from astronomy, cosmology, and even particle physics point to the whimsical WIMP—Weakly Interacting Massive Particle—as the most likely candidate for dark matter. Scientists are searching deep underground here on Earth. The Cryogenic Dark Matter Search (CDMS) experiment is conducted by a collaboration of more than a hundred scientists, including the speaker. The CDMS experiment is located nearly a half-mile underground and operates at a temperature much less than a half degree above absolute zero. Why are these extremes necessary? What's it like running an experiment at the bottom of a mine? What would discovery look like? (No, we're not there yet—you'd have heard about it!) What is the status, and where do we go from here?

Answers to these questions and more! Dr. Huber will introduce the evidence for dark matter and describe the challenges in conclusively detecting it in the laboratory, with a special emphasis on the CDMS experiment.

**EVERYONE IS WELCOME.** The discussion starts at 6:30 in the Mercantile Room (no food service there). Come before 6 PM to leave yourself time to get something to eat, or stay and eat afterwards. We end around 8 PM.

There's no charge. The Wynkoop is generously providing the facility; we buy our own drinks. It is first come, first seated, and **seating is limited** so that everyone can take part in the discussion.

The Colorado Café Scientifique is organized by an informal group of faculty from CU and institutions up and down the Front Range, as well as science fans from industry, government and elsewhere. We welcome your input, including ideas for speakers and topics. Bring them with you to the next Café, or e-mail them and any questions to [John.Cohen@UCDenver.edu](mailto:John.Cohen@UCDenver.edu)

**Essential information about the topic and the event on our Web site at:  
CafeSciColorado.org**