

COLORADO

CAFÉ SCIENTIFIQUE

TUESDAY 18 MARCH 2008

at the Wynkoop Brewing Company

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

Corner of 18th and Wynkoop in LoDo, Denver
About a block from Light Rail. Thirteen minutes by foot from Auraria.

Cellulosic Biofuels

Why Putting Transportation Vehicles on a High Fiber Diet Makes Sense

James D. McMillan, PhD

Manager, Biorefining Process R&D
National Bioenergy Center, NREL

Starch is the carbohydrate that humans eat; until we evolve another stomach or two, we can't utilize "fiber," that is, cellulose, because we lack such enzymes as cellulase that break it down to the simple sugars we utilize. Anyone can make ethanol out of starch; just ask the Wynkoop's brewers. And there's the rub: a whole host of issues arise if we want to divert the world's food crops away from food to making fuels. Some say that starch production for fuel actually creates more CO₂ than burning petroleum. So is cellulose a better feedstock for the fuel industry? You could use unwanted weeds, switchgrass, leftover tree products... It sounds attractive, but what are the technical issues? Where do we get enough cellulase to convert the cellulose to sugar, so bacteria or yeasts can ferment it to alcohol or other useful fuels? What steps are required, what will it cost, when will we get it, what impact will it have on the environment and global warming? Jim McMillan is one of the world's experts, and if he doesn't have all the answers at least he'll help us find the right questions.

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 in the restaurant area, 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 in Denver is organized by an informal committee of faculty from CU and institutions up and down the Front Range, as well as writers, students, and science fans from industry, government and all over. 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@UCHSC.edu

Essential information on our Web site at <http://CafeSciColorado.org>