

COLORADO

CAFÉ SCIENTIFIQUE

TUESDAY 9 DECEMBER 2008
MERCANTILE ROOM AT 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.

Where Is My Robot?

James P. Gunderson, PhD, and Louise F. Gunderson, PhD
Gamma Two, Inc. a custom robotics company, Denver
With a special guest appearance by **Basil**, the Drinks Robot

You know - the one that acts like the ones in the movies; the one that I just tell what to do, and it goes out and does it. If it has problems, it overcomes them; if something in the world changes, it deals with the changes. The robot that we can trust to do the dirty, dangerous jobs out in the real world - where is that robot? What is preventing us from building and deploying robots like this? We believe that a major component of the answer is the ability to *reify*: the ability to turn sensory data into symbolic information that can be used to reason about the situation and then to turn a symbolic solution back into sensor/effector actions that achieve a goal. This bridging process from sensor to symbol and back is the focus of this evening. The speakers call this bi-directional mapping of sensor data to symbols and symbolic manipulation into real world effects 'reification'. This ability is what enables living systems to look at the world and perceive the things in it. In addition, intelligent living systems can extrapolate from their mental models and predict the effects of their actions in the real world. We will develop the concepts of reification from biologically based premises, and follows the development into the necessary components and structures that can be used to provide equivalent capabilities for intelligent robots.

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 are generously providing the facility; we buy our own drinks. It is first come, first seated, and **seating is limited** by the fire laws!.

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@UCDenver.edu

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