



# UMass Lowell Computer Science Colloquium Announcement

**Speakers:** Prof. Samuel Madden, MIT  
**Date & Time:** Wednesday, Sept. 27, 2006, 3:00pm--4:00pm  
**Place:** Olsen 311, Refreshments are served at 2:30pm

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## The CarTel Mobile Sensor System

CarTel is a software and hardware platform for collecting and processing data from moving vehicles. Data is captured from GPS, Wi-Fi, and OBD-II interfaces and stored in a local database on each car. This stored data is transferred opportunistically, via available Wi-Fi networks, cellular modems, or by "muling" data on a user's cell phone or USB key, to a central "portal", where users can browse and visualize it. To allow non-expert users to specify what data they would like to collect from remote vehicles, CarTel includes a simple database-like interface for programming and configuration.

In this talk, I will discuss the architecture of CarTel and mention some applications of the technology to traffic and fleet management, driving safety, and fuel conservation. I will also show a brief demo of the portal software, which provides a map-based interface for browsing about 1100 hours of driving data from collected by our system from six cars over the past year.

### Bio:

Samuel Madden is an Assistant Professor in the EECS department at MIT, and a member of MIT's Computer Science and Artificial Intelligence Laboratory (CSAIL). His research interests span all areas of database systems; past projects include the TinyDB system for data collection from sensor networks and the Telegraph adaptive query processing engine. His current research focuses on modeling and statistical techniques for value prediction and outlier detection in sensor networks, high performance database systems, and networking and data processing in intermittently connected environments. Professor Madden received a Ph.D. in Computer Science from the University of California at Berkeley in 2003 and an M.Eng. and B.S. from the Massachusetts Institute of Technology in 1999. He was named one of the top technology researchers under the age of 35 by Technology Review Magazine in 2005.