

Department of Computer Science
University of Houston

**FACULTY CANDIDATE SEMINAR
SPRING 2011**

WHEN: WENESDAY, MARCH 30, 2011
WHERE: PGH 232
TIME: 11:00 AM

SPEAKER: Dr. Omprakash Gnawali, Stanford University

Host: Dr. Rong Zheng

TITLE: Design of Large-Scale Low-Power Wireless Sensor Networks

Abstract:

In this talk, I will describe the design and implementation of a 200-node wireless sensor network deployed at Stanford University. This network continuously monitors energy use in the computer science building at the granularity of one power outlet. I will describe the key mechanisms of the Collection Tree Protocol (CTP) that make this network robust, reliable, and efficient. In addition to this one-year deployment, CTP has been extensively tested on 13 testbeds consisting of seven different hardware platforms and used in many other deployments. This work has also helped identify areas for future research in wireless networks for cyber-physical systems. I will conclude with those thoughts.

BIO:

Omprakash Gnawali is a postdoctoral scholar in computer science at Stanford University. He received his Ph.D. from the University of Southern California and Masters and Bachelors degrees from the Massachusetts Institute of Technology. Om designs and builds networked systems at the intersection of mobile, wireless, and cyber-physical systems.