



**Fall 2011 Colloquium**  
**Temple University**  
**Computer and Information Sciences**

***Routing Protocols in Heterogeneous Wireless Sensor  
Networks with Assured Delivery Rate***

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**Abstract:**

The past five years witnessed a rapid development of wireless sensor networks, which have been widely used in military and civilian applications. Due to different requirements in their application environment, sensors with different capacities, power and so on are deployed. Data routing in such heterogeneous sensor networks is a challenging task. On one hand, the heterogeneous features bring about the diversity in their transmission ranges, which subsequently lead to asymmetric links in the communication graph. As a result, conventional routing strategies based on undirected graphs become unsuitable. On the other hand, sensors communicate with each other through intermittent asymmetric links. It is important to provide assured delivery rate for mission critical applications. In this talk, I will present some routing algorithms that we have developed for heterogeneous sensor networks that take advantage of the asymmetric links and guarantee an assured delivery rate.

**Bio:**

**Xiao Chen** is an associate professor of Computer Science at Texas State University - San Marcos. She received the Ph.D. degree in Computer Engineering from Florida Atlantic University, the Master degree and Bachelor degree in Computer Science from Shanghai University of Science and Technology (now Shanghai University). Her research interests are in the areas of delay tolerant networks, sensor networks and ad hoc wireless networks. She served as an associate editor, program committee member, session chair and reviewer of numerous international journals and conferences.