

DEPARTMENT OF ELECTRICAL ENGINEERING
Purdue School of Engineering and Technology
Electrical and Computer Engineering
Research Seminar

FALL 2008 SEMINAR SERIES

Date: Thursday, September 25, 2008
Time: 12:00 pm – 1:00 pm
Room: SL 148

Everyone is invited

**Managing tumor respiratory motion in Image Guided Radiation
Treatment**

Dr. Huanmei Wu

Abstract.

The goal of radiation therapy is to ensure precise and accurate delivery of radiation to a tumor to achieve a dose level that is curative while limiting the exposure of surrounding healthy tissues and critical structures to avoid serious complications. Image-guided radiation therapy (IGRT) can potentially increase treatment effectiveness for tumors of the lower abdomen and lungs that undergo respiration-induced motion. However, its success largely depends upon an adequate understanding of tumor motion characteristics and accurate prediction of tumor position at some point in the future. Such predictions constitute a challenging problem since respiration-induced tumor motion is complicated and patient-specific. This talk will discuss our research in modeling, analyzing and predicting tumor motion for motion characterization and real-time delivery control.

About the Speaker.

Dr. Huanmei Wu is an assistant professor at School of Engineering and Technology, joint with School of Informatics. In addition, she holds adjunct positions at ECE department, CS department of IUPUI, and Purdue School of Health Sciences at West Lafayette. Her major research is in database, data mining, machine learning, bioinformatics, health informatics, and medical physics.