

**BME Seminar****Early Detection of Ovarian Cancer:  
Mission Impossible?**

By

**Dr. Molly A. Brewer, DVM, MD, MS****Professor, Division of Gynecologic Oncology  
Carole and Ray Neag Comprehensive Cancer Center, UCHC****Friday, September 21, 2012****CB 202****3:00-3:50 pm****Abstract:**

Ovarian cancer is the leading cause of death from gynecologic cancers and the mortality has not changed substantially in 20 years despite advances in surgical and chemotherapy treatment. Women are typically diagnosed in Stages III and IV where there is widespread cancer and only a 20-25% chance of survival over 5 years. Little is known about the precursor lesions although some data suggests many of these cancers may start in the tubal epithelium. What we are beginning to understand is that high grade cancers probably metastasize and invade almost simultaneously which explains the late stage of diagnosis. The ability to detect early changes in the ovary with a minimally invasive technique could substantially improve the ability to diagnose these cancers potentially prior to metastasis. In addition, many women undergo surgical procedures for a mass in the ovary that is benign on the final pathology and we currently do not have a definitive way to determine if an ovarian or tubal mass is benign or malignant and thus many women undergo unnecessary surgery. I will discuss how collaborations between biomedical imagers and physicians can develop new optical approaches to interrogate the ovary and fallopian tube and how this novel imaging can improve our clinical care of women.