

# CANCER CENTER SEMINAR SERIES



## **Nancy Ratner, PhD**

*Professor, Division of Experimental Hematology  
and Cancer Biology*

Cincinnati Children's Hospital Medical Center

My laboratory is interested in peripheral nerve glia known as Schwann cells. We study Schwann cells during normal development, and during abnormal development associated with tumor formation. The current focus of our research is genetic mutations in tumor suppressor genes and the effect of these mutations on Schwann cell development. These genes are thought to contribute to carcinogenesis when mutant or lost. Schwann cell tumors develop in humans who inherit mutations in two of these tumor suppressor genes, neurofibromatosis type 1 (NF1) and neurofibromatosis type 2 (NF2). Mechanistic analysis of Ras (a modulatory NF1 activity) pathways and cytoskeleton- Rac (a member of the RhoGTPase family involved in NF2 signaling) intracellular signaling pathways in Schwann cells disrupted by mutations in these genes are being actively investigated. We are using transgenic mouse models, and cells from primary human tumors to define cellular changes that lead to Schwann cell tumor formation, secondary to mutations in the NF1 and NF2 genes.

## **“Neurofibromatosis: Timing and Targets”**

Friday, October 22, 2010

**Frohring Auditorium - BRB 105**  
**12 pm - 1 pm**