



**RNA Innovation Seminar**  
**Thursday, June 8th at 4:00pm**  
**Forum Hall, Palmer Commons**

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***“Regulation of breast cancer stem cells by non-coding RNA’s”***

**Abstract:**

*Many cancers including breast cancer are hierarchically organized and driven by a population of cells that display stem cell properties. These “cancer stem cells” (CSC’s) mediate metastasis and contribute to treatment resistance. Like their normal counterparts, CSC’s are regulated by paracrine signals from the tumor microenvironment or “niche”. These signals impinge upon CSC signal transduction pathways which intern regulate CSC behavior. Non coding RNA’s may play a critical role in these processes. We will present recent work describing a nuclear CSC regulatory complex involving the RNA binding protein SPEN and CSC regulatory lncRNA’s including XIST as well as a number of associated microRNA’s. This complex may also contain a number of histone and DNA epigenetic regulatory proteins. Together our results suggest that this SPEN-lncRNA –microRNA complex may coordinate epigenetic regulation of breast CSC’s.*

**Key words:**

*microRNA, SPEN protein, XIST lncRNA, breast cancer stem cell, epigenetic regulation*