

## **SANJAY TIWARI**

### **A roadmap to precision medicine in breast cancer bone metastases**

Precision oncology, with its myriad of genomic alterations and targeted therapy combinations, cannot be addressed with historical clinical trial designs which are iterative in nature. Innovative approaches are required which faithfully select drug combinations which suppress acquired resistance to the other drug or sensitizes the other drug to give a therapeutic response. This is particularly challenging for breast cancer bone metastases, due to the heterogeneity of the disease and the difficulty in obtaining bone biopsy with sufficient good quality tumor cells. Recent advances in genomic profiling, isolation and expansion of patient derived tumor cells together with in vivo models which faithfully replicate patient heterogeneity have revealed the potential to develop strategies to overcome treatment resistance. This presentation summarizes current advances and attempts to elucidate a preclinical platform for identification of optimal drug combinations against bone metastases.