PSONDCC

Physical Sciences Oncology Network Data Coordinating Center

The National Cancer Institute (NCI) is exploring new and innovative scientific approaches to better understand and control cancer. The Division of Cancer Biology's Physical Sciences in Oncology Initiative seeks to establish research projects that bring together cancer biologists and oncologists with scientists from the fields of physics, mathematics, chemistry, and engineering to address some of the major questions and barriers in cancer research.

In 2009, the Physical Sciences – Oncology Centers (PS-OCs) Program was launched, a Network of 12 Centers investigating complex and challenging questions in cancer research from a physical sciences perspective. To explore how the NCI could continue to support the integration of physical sciences and cancer research, a Think Tank and series of Strategic Workshops were held in 2012. The workshops served to update opportunities at the interface of physical sciences and cancer research and guide the development of Program Announcements for a second phase of the PS-OC Program and Physical Science – Oncology Projects (PS-OPs) Program that together will form the Physical Sciences – Oncology Network (PS-ON).

Data generated from the PS-ON:

- PSON002 Physical Characterization of Cell Lines. Atomic Force Microscopy
- PSON005 Physical Characterization of Cell Lines: Traction Force and Volume
- PSON003 Physical Characterization of Cell Lines: Motility
- PSON004 Physical Characterization of Cell Lines: Morphology
- Cell Line Genomics – mRNA
- Cell Line Genomics – miRNA
- Cell Line Genomics – exome
- A physical sciences network characterization of non-tumorigenic and metastatic cells
- PSON001 Enumeration of Circulating Tumor Cells
- Circulating Epithelial Cells – low-pass genomic sequencing of single cells