

**New Jersey State Commission on Cancer Research
LAY ABSTRACT OF RESEARCH PROJECT**

NAME OF PRINCIPAL INVESTIGATOR/PROGRAM DIRECTOR: **Hilary Collier**

Project Title: **Tissue quiescence in homeostasis and breast cancer**

Description: **Because the development of a tumor involves not just the cells in the tumor itself but also the cells that surround the tumor, we propose to investigate the role of specific molecules that we hypothesize inhibit tumor growth in normal tissue.**

With an estimated 7,740 new breast cancer cases in the year 2005, New Jersey is among the states with the highest breast cancer incidence in the country. Better treatment of breast cancer will require new approaches to therapy. One promising strategy is based on the realization that cancer reflects a disruption of the normal mechanisms that different types of cells within our body use to "talk" with each other. We discovered a previously unknown portion of this "conversation" between cell types. We hypothesize that it may represent the way that one type of cell, the fibroblast, tells another type of cell, the cells that make blood vessels, that it is time to stop growing. We propose to identify the specific "words" that are most important in conveying this information, and to test whether these "words" have become garbled in tissues that support the growth of tumors. Cancer therapies based on replacing these garbled words may represent a promising new avenue for therapy.