

## In The Spotlight: Collaboration with Christiana Care

February 2005 -- According to the National Cancer Institute, Delaware had the fourth highest mortality rate in the nation for all types of cancer between 1994 and 1998. For specific types of the disease, the state ranked third in breast cancer, fifth in both lung and colorectal cancer, and ninth in prostate cancer. To combat these staggering statistics, the [Helen F. Graham Cancer Center](#) (part of the non-profit [Christiana Care](#) community hospital system) and the University of Delaware have joined forces to try to improve the situation throughout the state through an approach known as "translational research."

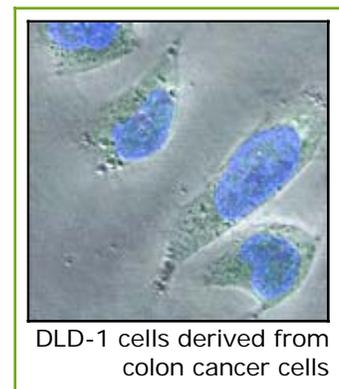
The goal of translational research is to complete a circle that starts and ends with the patients. For example, a hospital physician notices they're not having much success with treating a particular type of cancer. The physician contacts a researcher who specializes in that cancer and arranges to have their patients' tissue samples delivered to the researcher. If the researcher has some success in combating the cancer in a laboratory setting, they will pass this knowledge back to the physician who can have clinical trials conducted at the hospital. After successful trials, the solution can then be offered to future patients with the same type of cancer as a new and possibly more effective option in combating the disease.

Situations like the one described above are now regular occurrences between the patients at Christiana Care, their physicians, and researchers at the University of Delaware. [Dr. Mary C. Farach-Carson](#), a Professor in the Department of Biological Sciences, is one of several UD faculty that works with the Graham Cancer Center. She participates regularly in meetings held by the center's Director, Dr. Nicholas Petrelli, to determine if the research conducted by her laboratory studying prostate cancer would be compatible with the future needs of the hospital's patients. When appropriate tissue becomes available, action is taken quickly. "Just after a tissue sample is taken, someone in our lab is paged," explains Dr. Farach-Carson. "They go right over to the hospital, bring the samples back, and start working on them immediately." Less than six miles apart, location is a real advantage for both institutions; transporting live tissue samples over long distances is logistically difficult.



Dr. Farach-Carson

In addition to conducting research based on the needs of Christiana Care's patients, scientists at UD and other local research institutions can use the Graham Cancer Center's tissue bank to determine whether their work can be applied to different types of cancer. The new bank is one of only two non-university-based programs in the United States. "We started by collecting matched lung carcinoma and normal tissues," says Dr. Mary Iacocca, a Pathologist with Christiana Care, in the [Graham Cancer Center's 2004 Annual Report \(PDF\)](#). "...now we have the capability to also accept and preserve both colon and breast specimens." Prostate tissues will also be added to their collection soon. "The information gained from studying these tissues at the basic science level may one day lead to a cure for some cancers," says Dr. Greg Pahnke, Medical Director for Christiana Care's tissue procurement program, in the report.



DLD-1 cells derived from colon cancer cells

[Dr. Eric Kmiec](#), Professor in the Department of Biological Sciences, was one of the first researchers to use the new tissue bank. Part of Dr. Kmiec's research



focuses on a gene called RAD51L1 and the potential role it plays in the formation of tumors in the lung. When Dr. Kmiec's lab needs samples from the tissue bank, the bank prepares them for transport by freezing them in liquid nitrogen. "The project has been accelerated by the development of this tissue center," says Dr. Kmiec. "There is no replacement in the evolution of therapeutic applications than the use of primary cells and tissue." Additionally, Dr. Thomas Bauer, a thoracic surgeon at the Graham Cancer Center, and Dr. Koren Miller, a third-year resident in Christiana Care's General Surgery Residency Program, aid this project by participating in the research performed in Dr. Kmiec's lab. This collaboration led to the submission of a grant to the National Cancer Institute to train surgical residents in cancer research.



Kmiec lab group meeting