A Passion for Discovery

Fueled by a fascination with science and medicine and the experience of losing her husband to cancer almost 20 years ago, Laurel Schwartz is committed to supporting cancer research. But the personal connection she has with Daniel DiMaio, MD, PhD, and his work, is the driving force behind her long term contributions to support his research in tumor virology.

Schwartz and Dr. DiMaio, Deputy Director of Yale Cancer Center and Waldemar Von Zedtwitz Professor of Genetics at the School of Medicine, met through a mutual friend more than half a dozen years ago. When she heard about his research on using viruses to understand how cells work and how to manipulate them to fight cancer, she was impressed. “For me, it’s critical to be involved with the person who’s doing outstanding work,” she said. Although Dr. DiMaio’s work is unrelated to the cancer that claimed the life of her husband, Schwartz recognized the importance of learning more about the role of viruses in cancer. According to Dr. DiMaio, viruses cause about 15 percent of all human cancers, including cervical cancer, as well as forms of head and neck cancer, liver cancer, lymphoma, and Hodgkin’s disease.

Schwartz’s support over the past several years has allowed Dr. DiMaio to explore avenues that would otherwise have been difficult to pursue. He has funded Dr. DiMaio’s work on an unusual viral protein that affects cell behavior, isolated from a papillomavirus that causes warts in cows and is related to the human papillomaviruses, which causes cervical cancer and some head and neck cancers. He has gone on to design artificial proteins based on this viral protein that block HIV infection (which is often linked to cancer), cause cells to differentiate into red blood cells, or most recently, prevent cancer formation in model cellular systems. He is pursuing this line of inquiry by exploring additional targets for these artificial proteins, attempting to simplify them and make them smaller in the hopes of developing drugs, or most recently, preventing cancer formation in model cellular systems. “These are very much unconventional experiments,” said Dr. DiMaio.

These very much unconventional experiments, Laurel appreciates the necessity for continuing to do basic discovery research. She doesn’t insist that we develop a new drug or a new vaccine, but rather that we understand better how cells work and how cancer forms.”

Daniel DiMaio, MD, PhD