Breast Cancer Research at Sunnybrook Spurred by Federal Investment

By Stephanie Roberts

Canada Foundation for Innovation gives green light to integrated data bank

The country's largest funding agency for research infrastructure has awarded $958,420 to Sunnybrook Health Sciences Centre to build the world's first breast cancer research "biomatrix." The vast data repository will advance research into breast cancer prevention, early detection and diagnosis, and will enable new, individualized treatments for breast cancer to be developed and tested faster and more efficiently.

Dr. Barry McLellan, president and CEO of Sunnybrook, welcomed the investment from the Canada Foundation for Innovation (CFI). "Sunnybrook's scientists and clinical staff are on the leading edge of breast cancer research, and with the help of this grant we will continue to improve the lives of women by offering earlier detection of this dreaded disease and treatments that are tailored to each patient," said Dr. McLellan.

Senior scientist Dr. Martin Yaffe is leading the project, titled An Integrated Breast Cancer Research Biomatrix. Yaffe and colleagues—scientists and clinicians from across the hospital and Sunnybrook Research Institute—will build a storehouse of information on all facets of breast cancer, from screening through to diagnosis, treatment and follow up; from molecular analysis to clinical trials and epidemiology.

"We're excited about the possibilities. At its simplest, the biomatrix describes a resource that allows us to facilitate our research into breast cancer," said Yaffe.

It will house tissue and tumour samples, medical images, and demographic and clinical data. The focus is both retrospective—it will collate archived data now scattered in various locations—and prospective—it will collect new information going forward. This latter aim entails tapping into the extraordinary patient base at Sunnybrook, where 10,000 new cancer patients are seen per year.

"We're trying to create a situation whereby every woman who comes into the hospital for treatment becomes a contributor to research," said Yaffe.

The eventual benefits of such a contribution are many. For example, information from a woman's diagnostic images and course of treatment will help speed the development of novel therapeutic options. "The biomatrix will help us to develop new drugs to be more effective, and to develop new customized treatments for breast cancer," he said.

Yaffe is a professor at the University of Toronto and holder of the Tory Family Chair in Cancer Research. He is a pioneer in the development of digital mammography, an imaging technology that provides improved accuracy for the detection of breast cancer.

The award comes through the Leading-Edge Fund of the CFI, and builds on the work of the previously supported Breast Cancer Research Centre. Of the $958,420 awarded, $737,246 is to build the biomatrix; $221,174 is earmarked for infrastructure operating expenses.

Other research receiving CFI funding is that of Dr. Alan Moody, associate imaging scientist at Sunnybrook, who is an investigator on two proposals: Communication and Imaging Infrastructure for the Canadian Atherosclerosis Imaging Network, led by Dr. Jean-Claude Tardif at the Université de Montréal; and Diet, the Digestive tract and Disease: The 3D Centre, led by Dr. David Jenkins at U of T.