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Yaffe Takes Up Challenge

By Laura Pratt
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Dr. Martin Yaffe, a senior scientist in imaging research at SRI, has been appointed co-director of the Ontario Institute for Cancer Research's cancer imaging research initiative. Launched in April 2007, the initiative has two prongs: one, to develop a strong program in cancer imaging research; the other, to identify cancers earlier than ever before. Yaffe heads up the latter, which is titled the One Millimetre Cancer Challenge (1mmCC) in reference to the aim of identifying cancers when they're only one millimetre in size.

"The real issue is to find cancers when they're small enough that we can save the person's life," says Yaffe. "And to go even further so we can make the treatment less expensive, less stressful."

The 1mmCC program is based on the use of imaging to improve early detection. Because most of the current methods of cancer imaging depend on looking for masses

—“a fairly coarse” approach, Yaffe says—he’s taken the lead with this appointment in the development of more sophisticated methods of detecting cancer on the basis of clues like their molecular fingerprint. “There are certain types of molecules that could serve as a signal that a cancer is growing that might not be present if there were no cancer,” he says. “We’re trying to develop imaging techniques that would help us detect the presence of these molecules.

“We’ve been reasonably successful in improving mammography so we can see smaller cancers. But now we’re talking about the next generation where we’ll be able to detect cancers at an even earlier point in their development. Also, once we understand the molecular fingerprint of the cancer, it will help us to figure out the most effective treatment.”

The ability to imagine this brave new world is facilitated by recent developments in chemistry and improvements in computers for digital image analysis. What’s more, says Yaffe, the initiation of the OICR program has produced a team of people with interdisciplinary expertise—imaging, chemistry, medicine, biology—all of them poised to advance the cause.

All told, the OICR is giving more than \$30 million over four years to the cancer imaging research program, \$9.2 million of which will come to SRI. In addition to Yaffe, 11 other SRI scientists are involved in the program.

