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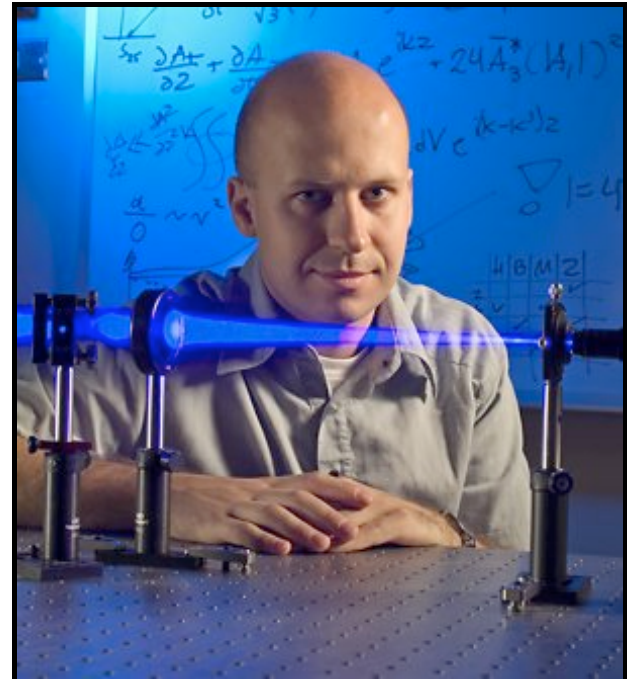
Governor General's Gold Medal Award Winner Chooses Sunnybrook

Lukasz Brzozowski, a research associate at Sunnybrook Research Institute (SRI), recently was awarded the prestigious Governor General's Gold Medal for scholastic achievement. The 27-year-old graduate of the Department of Electrical and Computer Engineering at the University of Toronto was one of only three people at U of T to receive the gold medal for his doctoral thesis in 2004.

After completing his PhD, he had his pick of research institutes. He negotiated with the Naval Research Laboratory in Washington D.C. and Bell Labs in New Jersey, but he chose SRI. "I wanted to work at Sunnybrook where the research and clinical environment offers a unique blend of multidisciplinary expertise," he says.

Defining New Fields

Brzozowski, a soon-to-be father, emigrated from Poland by himself at the age of 18. Since then, he has studied and worked almost non-stop. His doctoral research has resulted in 31 peer-reviewed publications, many presentations and invited talks, a book chapter, co-supervised undergraduate and graduate theses, and two patents sponsored by Nortel Networks. As of August 2004, 80 articles in peer-reviewed journals had cited papers Brzozowski had authored while a doctoral student.



During the course of his PhD, Brzozowski and his supervisor, Ted Sargent, founded and elucidated a new research field known as balanced periodic nonlinear optical devices for optical signal processing. Now working with senior scientist [John Rowlands](#) at SRI, Brzozowski is applying his skills to several projects in multi-modality medical imaging.

Partnering With Industry

For example, he is working toward the integration of magnetic resonance and X-ray modalities, in collaboration with General Electric Medical Systems, Stanford University and CPI Canada. The goal is to combine the excellent speed and resolution of X-ray imaging with the three-dimensional visualization and soft tissue contrast ability of medical resonance imaging.

Another project Brzozowski is leading features the application of photo-excitable properties of semiconductor and metallic quantum dots to facilitate safe de-bulking and characterization of chronic total occlusions in coronary and peripheral arteries. He is working with a team of researchers from SRI, Princess Margaret Hospital and Spectranetics Inc. to invent novel medical devices, which, if successful, would enable the superior navigation and characterization of arterial occlusions.

Targeting a High-Tech Future

These are just a few examples of Brzozowski's work, much of which addresses the problems with current technologies. Looking toward the future, Brzozowski says, "I am very interested in the commercialization of the technology. My dream is to become a leader in research and

business in the Canadian biomedical high-tech community.”

The [Governor General’s Academic Medal](#), which can be Bronze, Collegiate Bronze, Silver or Gold; was first awarded in 1873 and has since become one of the most prestigious awards that a student at a Canadian educational institution can receive. Two well-known Canadians who have also received medals are Pierre Elliot Trudeau (Silver) and Kim Campbell (Bronze), Canada’s 20th and 25th prime ministers, respectively.

This is a revised version of a story written by Sunnybrook’s summer 2004 public affairs intern, Tiffany Auvinen.