**Bringing Research to LIFE**

**Coming Back**

Unique scholarship helps female physicists return to their careers after personal leaves

**BY KATIE CHALMERS-BROOKS**

Physicist Marija Nikolic-Jaric is accustomed to tackling difficult problems. But nothing could have prepared her for the personal tragedy she faced.

Her husband, also a physicist, was diagnosed with a brain tumor at age 43. The news brought the world to a stop for Nikolic-Jaric, who at the time was set to defend her thesis for her PhD. Research was the furthest thing from her mind while she cared for her husband; he died 18 months after his diagnosis.

Suddenly a widow and a single mom, Nikolic-Jaric put her career aside to care for their toddler son. It was some time before she felt strong enough to take on her thesis and jump back into the intense world of physics which she adored. Given the practical hurdles she faced, taking that leap felt overwhelming.

“I knew that I was good at research. I just did not know whether I would have anyone willing to give me the opportunity to show just what I can do,” says Nikolic-Jaric, now a postdoctoral research fellow at the University of Manitoba. “I was sure that I wanted to go back, but was not so sure that I would necessarily find the environment open to my untraditional career path.”

A woman Nikolic-Jaric had never met indirectly pointed her in this direction. M. Hildred Blewett, a fellow Canadian physicist equally passionate about the field, had five years earlier (in 2004) left more than $1 million to the American Physical Society when she died at 93.

Blewett wanted a scholarship created for women who, early in their careers, had to interrupt their work for family reasons; the money would help them resume their research. Blewett grew up poor and had to take a year off from college because she couldn’t afford to continue. She would go on to develop a technique to control pollution escaping from the chimneys of factories in New York, where she worked for General Electric.

Last year, Nikolic-Jaric became the first Canadian woman to receive the $42,000 US M. Hildred Blewett Scholarship. She says it’s not uncommon for female physicists to put their careers on hold to raise kids, care for family members, or allow their spouses’ academic pursuits to be the priority. It can be especially difficult to get back into this predominantly male field — which is always advancing — but this scholarship is helping to change that, says Nikolic-Jaric.

“It was a tremendous psychological boost that there is someone, not just someone but the American Physical Society, who says it’s okay to take a break, things happen and if they do we’re going to give you a hand and you can come back,” she says. “It was like a second wind. I feel like I’ve been offered a second chance. I’m incredibly grateful. It feels really good to have someone stand behind you.”

Since September she has been using her award to do research in the field of microfluidics within the Department of Electrical and Computer Engineering, in Prof. Douglas Thomson’s lab. She’s sending cells down a tiny channel — about the size of a couple of human hairs — and subjecting them to different kinds of electric fields to explore their electric properties. The goal is to connect these characteristics to the physical properties of cells with cancer and other deadly diseases. The hope is this technique can be done using a tiny chip, providing medical personnel — including those in developing countries — with a more accessible, convenient and less expensive option for diagnosis than the bulky equipment currently used.

“The possibilities are fantastic. This is a huge field and growing exponentially,” says Nikolic-Jaric, who wants to contribute to the battle against cancer in a practical way.

Her personal loss has given her newfound determination. “I confirmed what I believed in before,” she says, “never to give up.”

To learn more about the M. Hildred Blewett Scholarship, go to http://www.aps.org/programs/women/scholarships/blewett/index.cfm.