

**Metro Workology exclusive: Head to Toe**

In the coming weeks Metro's Workology section will be setting its sights on the health industry and all jobs and careers therein. So be sure to read Workology and Metronews.ca/work for the special Head to Toe series.

# Research on the smallest levels

Education for health fact finders 'meandering' but the pay off makes it worthwhile

## Head to Toe

BRIAN COULTON  
for Metro Canada

**The science bug bit Dawn Bowdish during a co-operative education program she took in high school. Now, she's fighting the bugs that cause infectious diseases.**

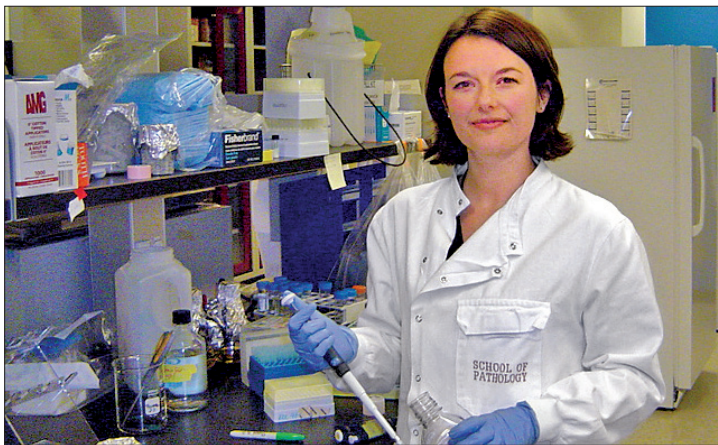
"I study a kind of white blood cell — because our white blood cells are our immune response — called a macrophage. They are important because they're the white blood cells that are associated with initial detection and, hopefully, defeat of pathogens," she said.

Bowdish, 33, is an assistant professor of pathology and molecular medicine, appointed to the Michael G. DeGroote Institute for Infectious Disease Research at McMaster University in Hamilton, Ont.

In the Hamilton native's research, she focuses on the bacteria that cause tuberculosis, and streptococcus pneumonia, which causes lung and ear infections and meningitis.

The career of a health researcher is not suited for those keen to take the educational fast track — an undergraduate degree won't cut it. Bowdish started at the University of Guelph, obtaining a bachelor of science in microbiology, and then acquired her PhD in microbiology and immunology at the University of British Columbia, followed by post-doctoral training at the University of Oxford in Oxford, U.K.

"It's a very meandering trail of degrees you have to follow," said Bowdish, who noted her path conforms to the basic outline of someone in her position, save for the post-doctoral training, which could last between six months and any number of decades. "You have to be committed to your education," she



Commitment to your education is very important for health researchers, says Dawn Bowdish, but even more important is your commitment to your experiments once you're established.

said.

Commitment continues to be key throughout a researcher's career. While Bowdish said making some kind of discovery is rewarding, it's getting to that point that's the hard part. "Science can be repetitive and frustrating," she

said. "A macrophage is a particularly difficult cell to work on, so often you can literally spend months, sometimes years, just getting your experiment to work. That can be absolutely devastating!"

And although Bowdish describes her dream day as

one being spent wholly in the lab, she said much of her day is consumed by necessary administrative tasks. "In reality, I spend a lot of my time writing grants — asking the government or various charities for money, basically, to do the research. I also

**"Often you can literally spend months, sometimes years, just getting your experiment to work."**

Health researcher  
Dawn Bowdish

spend a lot of time writing up my research so that it's published and other researchers will become aware of it."

Bowdish wants awareness of her work to eventually mark her as Canada's foremost macrophage biologist and, in the long term, to develop anti-infective therapies to treat infectious diseases. And despite the frustrations she faces in the form of paperwork and repetition, she holds, "The thrill of discovery makes it all worthwhile."

For more of the Head to Toe exclusive series check Workology frequently or stop by: [metronews.ca/work](http://metronews.ca/work)

## Workology in brief

**MEN OUTNUMBER WOMEN IN OTTAWA** According to a new study released by Catalyst, men continue to outnumber women four to one in all positions in Canada's capital market, excluding administration. In 2008, women held 17 per cent of all line positions (ones needed to advance to the highest levels), a figure that hasn't changed since 2000. The study also found decreased levels of women in line positions at the professional and managing director level and above, which is a troubling trend since it indicates there is less diversity of thought at the senior decision-making tables.

**SECTORS** A recently released survey of employment, payrolls and hours indicates that in April, the service sector — universities, food services and drinking places, and truck transportation — job losses outpaced those in the goods sector. The goods sector also experienced a loss in employment, mainly in support activities for mining, oil and gas extraction and specialty trade contractors. But despite the widespread losses in the service sector, some service industries did experience job growth including municipal and public administration and grocery and department stores.

**MENTAL STRESS** Canadian employees are displaying signs of mental stress related to the current troubled economy, according to a 2009 Desjardins Financial Security National Health Survey. The findings show that 30 per cent of employees are experiencing anxiety, sleep loss, headaches, and other physical tension symptoms. However, certain parts of the country reported high-than-average results. Employees in Ontario and British Columbia rated higher symptoms than people in the rest of the country. **HEATHER BUCHAN/ FOR METRO CANADA**

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