

L'ÉCOLE POLYTECHNIQUE

25 years later: What's changed? What hasn't?



A quarter century after one of the darkest days in engineering—and Canadian—history, the quest for diversity and inclusiveness in the profession goes on.

By Michael Mastromatteo

Almost 25 years ago, on December 6, 1989, a deranged young man named Marc Lépine, ranting about his hatred of feminists and female engineers, entered an engineering lecture hall at l'École Polytechnique de Montréal, ordered the men out of the room and shouted in French: "I am fighting feminism. You're women. You're going to be engineers. I hate feminists."

He then opened fire with a semi-automatic rifle and, within 20 minutes, 14 women (12 engineering students, a nursing student and a university employee) were dead and 14 others were wounded. The spree ended only when the gunman turned his weapon on himself.

At the time, it was one of the worst mass killings in Canadian history, and rocked not only the engineering profession, but also Canadian society in general.

In the immediate aftermath of the event, the Canadian Committee on Women in Engineering (CCWIE), a federal government/private sector initiative established early in 1990, spent two years researching employment conditions for female engineers and effective practices to recruit them, and held public hearings across Canada to hear the experiences



of women in the profession. It delivered its final report, containing 29 recommendations for recruiting women into the profession, early in 1992.

Additionally, in 1991 the Canadian government established December 6 as the National Day of Remembrance and Action on Violence Against Women (White Ribbon Day). It was one of many memorials and activities intended to make something positive, or at least expatiating, out of the tragedy.

HONOURING THEIR MEMORY

For its part, one of the first initiatives of Ontario's engineering community was to create the Canadian Engineering Memorial Foundation (CEMF). The effort to establish the CEMF in 1990 was led by the late Claudette MacKay-Lassonde, P.Eng., PEO's first female president (1986-1987) and a graduate of l'École Polytechnique, along with a number of other concerned engineers. Through a concerted fundraising effort involving contributions from large corporations and many individual engineers, the CEMF established scholarships for female students so they might make positive contributions to society through the engineering profession.

Committed to creating a world where engineering meets societal needs by engaging the skills and talents of women and men alike, as of 2014, it had awarded more than 200 scholarships to more than 600 applicants.

"From a horrific event, a small but dedicated group of volunteers and staff have worked hard over the past 25 years to raise money and manage the scholarship process," says CEMF President Deborah Wolfe, P.Eng., FEC. "The women who win the scholarships are introduced to the engineering profession through attendance at Engineers Canada's annual general meeting. They are also required to give at least one presentation about engineering to high school girls before they receive their full scholarship payment, increasing the visibility of engineering in high schools across the country."

Wolfe says the number of scholarships has grown over the years from six to 13 (as of 2015). New for 2015 is the Marie Carter Memorial Undergraduate Engineering Scholarship, created in memory of a long-time senior staff member at Engineers Canada.

EVENTS MAGNIFIED MOMENTUM FOR CHANGE

While the l'École Polytechnique tragedy focused attention on the low numbers of women in engineering, PEO's efforts to make the profession more welcoming to women began in earnest more than three years before, when, as president-elect, MacKay-Lassonde championed a think tank on women in engineering. Convened in February 1986, the event produced a report, *Women in Engineering, Gaining Perspective* that made 11 recommendations, including the creation of a women in engineering task force, which was approved by PEO council in April 1986. Two years later, council established the task force as a standing committee, the Women in Engineering Advisory Committee (WEAC). In 2003, WEAC operations were transferred to the Ontario Society of Professional Engineers (OSPE) as a member-interest activity.

Márta Ecsedi, P.Eng., FEC, a former PEO councillor and Professional Engineers Awards Committee chair, who currently chairs PEO's Equity and Diversity Committee (EDC), was the founding chair of WEAC.

On December 6, 1989, Ecsedi was working in the engineering department of Bell Canada, and one of her tasks was to help her employer recruit promising engineering graduates from Ontario universities. It was during a recruitment interview with a male student that she first heard the terrible news and she still gets emotional when thinking back on it.

"Needless to say, I was a complete mess afterward," Ecsedi says. "But I felt I owed it to the students to get through those interviews that day."

Like MacKay-Lassonde, Ecsedi had long advocated for equitable treatment of women in engineering, recognizing that although her own engineering study and early career years weren't particularly difficult, the potential for harassment and sexist behaviour might increase as more young women entered the profession.

As profoundly shocking as the events of December 6 were at the time, Ecsedi believes they greatly magnified the urgency and momentum of what she and others were already doing. "There was a domino



Candlelight vigils, held on each anniversary of the December 6, 1989 shooting at L'École Polytechnique de Montréal, are one of the most poignant ways of remembering the 14 women who were killed in the incident.

A number of communities coast to coast have also erected monuments with the names of the 14 victims inscribed. Below is one such monument on the campus of L'École Polytechnique.



effect after the Montreal massacre, to the positive, because if you look at the statistics afterwards, so many actions went into play at that time,” she says. “So many universities across the country put initiatives [for women] into place, including my own alma mater, the University of Toronto.”

WOMEN IN THE PROFESSIONS

Ecsedi says another positive outcome was the Natural Sciences and Engineering Research Council (NSERC) initiative to establish chairs for women in the professions, first nationally and then in five different regions across Canada.

Retired from Carleton University and the University of Ottawa, where she was a professor of systems and computer engineering, Monique Frize, PhD, P.Eng., FEC, twice served as an NSERC women in engineering chair, first at the University of New Brunswick in 1989, and then in Ottawa in 1997.

The first chair of PEO’s EDC, Frize also chaired the CCWIE from 1990 to 1992 as it researched conditions for women in engineering. She believes there has been some movement toward a more inclusive profession since 1989, but there is still work to be done.

In a talk prepared for the 20th anniversary of the shootings, Frize reflected on the progress, noting that the fundamental question to be asked was:

“Is the workplace safer and more equitable than it was? Although some things have improved, it is imperative that we see more progress.”

FIRST-PERSON ACCOUNT

Engineers Canada director and Ordre des ingénieurs du Québec volunteer Sandra Gwozdz, ing., FIC, a project engineer with Bombardier Aerospace near Montreal, was a student at L'École Polytechnique on December 6, 1989. In fact, she was in an adjacent classroom on the Wednesday evening of the shooting.

“At first, we thought it was some kind of joke, since it was the last day of the fall session,” Gwozdz recalls. “A minute later, we asked a student to check what was going on. When he came back, he explained the situation and told us to turn off the lights and stay in the class. We first thought there were two or three shooters there. After another 15 minutes, we went outside of the room and many people began to evacuate as fast as we could.”

As might be expected among a close-knit group of students, Gwozdz was good friends with most of the victims. “One woman who was in first year with me was in the room with [the shooter] and was killed, and another student in my class went outside to make photocopies. She

“It is once I hit the job market that I really realized how the engineering profession was diverse and opened so many doors.” Sandra Gwozdz, ing., FIC

didn't come back. Thankfully, she didn't die, but she was shot in the back and she missed the next semester.”

Gwozdz has remained stoic in the intervening years (she graduated from l'École Polytechnique in 1991) and says she has never felt threatened or intimidated since starting her professional engineering career. She still extols the benefits of engineering as a positive career choice, and participates in an annual science fair promoting the profession to students and young women.

“The incident of December 6 had no influence on my career choice,” Gwozdz says. “Although my engineering studies were somewhat a random selection, once well underway at the university, I quickly realized I had made the right career choice. It is once I hit the job market that I really realized how the engineering profession was diverse and opened so many doors.”

WHAT THE NUMBERS SHOW

There have been many studies of engineering enrolment by gender since December 1989. In 2012, Engineers Canada published *Where it Starts, Canadian Engineers for Tomorrow*, which examined trends in engineering enrolment and degrees awarded from 2008 to 2012. It found that women reached a peak of 20.6 per cent of total enrolment in engineering in 2001, with the level fluctuating between 17 and 19 per cent for the greater part of the decade since. For graduate programs, however, cumulative growth in female graduate enrolment has out-paced growth in male enrolment.

Female engineers active in the profession's diversity efforts admit to a certain level of progress (PEO's inclusion of harassment as professional misconduct in Regulation 941/90 in 2000, for example, and, more recently, council's approval of an equity and diversity policy and implementation plan), but remain concerned about career limitations, the so-called glass ceiling, and the under-representation of women and visible minorities in the profession. As well, there are periodic reports of hazing and other sexist or discriminatory behaviour, particularly during university frosh weeks.

Certainly, the events of December 6, 1989, forced leaders in the engineering community to take stock of prevailing attitudes toward female engineering students and practitioners, and dramatically increased the momentum for change.

Yet it's also worth heeding the words of l'École Polytechnique graduate Gwozdz, who was at the school that evening: “The unfortunate

Sandra Gwozdz, ing., FIC, of Bombardier Aerospace in Montreal, did not allow the shootings at l'École Polytechnique in 1989 to interfere with her plans for an engineering career.



event of December 6 was the result of a sick individual. Such a tragedy can happen anywhere and I quickly realized that we need to continue in life and not let our choices and dreams be destroyed by a monkey wrench. It made me realize at a very young age that there will always be events or pitfalls that can stop us from moving and that it is up to us to make decisions and take actions to continue moving forward. Our achievements and fulfillment are not the results of coincidence but rather of our efforts and actions.” Σ

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