A Historic Look at the Women in Engineering

By R. Lewis

There's no denying that the field of engineering has been a predominantly male one. In fact, any study of professions that take women outside of what has long been considered their "traditional role" would uncover the challenges that women have faced breaking into male-dominated work settings. While women have come a long way in advancing their careers beyond the stereotypical ones to which they have traditionally been relegated, there's still quite a bit of work to be done, particularly when it comes to the field of engineering and women's inclusion and advancement within it.

Engineers Canada has set a lofty goal of 30 by 30; the aim of this initiative is that by the year 2030, at least 30 percent of newly licensed engineers will be women.

A Dive into History

While 30 by 30 may seem like an ambitious goal, there are women within the profession who have set an historical example to illustrate that impossible feats are simply bumps in the road on the way to achieving what they set out to accomplish. One such woman was Judith Weiszmann, who had emigrated to Canada from Hungary during the country's political upheaval and the takeover by the communist regime.

Weiszmann was the first woman with the Association to apply to become an engineer, in 1958. Her application, however, was rejected. While Weiszmann had already graduated as an engineer in Hungary, the change in the university's name during the country's time of turbulence resulted in the university no longer being recognized in Canada as an approved institution. Weiszmann's efforts to meet the Association's criteria were further complicated by the fact that there were two program streams: a day stream and a night stream. Weiszmann had attended the night stream, which was not held in the same esteem as the day stream. It would take Weiszmann several attempts, six qualifying exams, a thesis, and another decade before she would finally be accepted as a registrant of the Association in 1969.

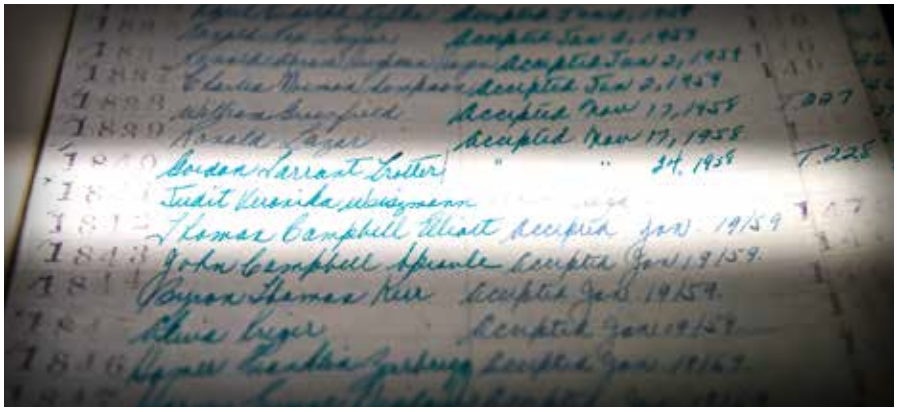


Image of Judith Weiszmann from the 1983 Bulletin supporting an Association event.

By that time, Weiszmann had fallen to fourth on the list of women registering to practice engineering in Manitoba. But her determination in the face of countless challenges, while still taking care of her family



Judith Weiszmann



Judith Weiszmann's name, listed in the register 1958.

and working full-time alongside her husband, gives not only a glimpse, into the challenges that women at that time faced, but also insight into Weiszmann's tenacity. For every minute Weiszmann may have lost in achieving her goal of becoming an engineer sooner, she made up for with an outstanding 40-plus-year career and her second "first" as the only woman in engineering to have practised for 45 years.

Several months after Weiszmann's initial 1958 registration application, another woman decided to try her luck at registering with the Association. Minke Kuiper, who had immigrated from Holland in 1950 was successfully registered with the Association in 1959, making history as the first woman to become a registered engineer in the province. While her path to the profession held fewer challenges than Weiszmann's, and Kuiper only remained a registered professional engineer for 10 years, it would be remiss to not acknowledge her accomplishment at a time when women in the profession were non-existent. While other women like Naomie Raz, Inge Sveinbjornson, and Irene Shumada would later successfully register with the Association, it was Weiszmann, the woman who, ironically, encountered the most challenges, would be the only one to maintain her registration and remain active professionally.


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Engineers' Association Registers First Woman

Courtesy of the *Winnipeg Free Press*, dated May 2, 1959.

While several of the women who registered with the Association came to Canada looking for a better life, the University of Manitoba saw its share of women entering the Faculty of Engineering. The first of these women was Edna Russell, who graduated in 1946 from the university, yet, for reasons unknown, did not go on to register. Some 14 years later, in 1960, another woman, Wendy Woods, entered the Faculty of Engineering, but sadly never graduated, as her life was cut short by a tragic car accident. In 1974, one woman, Kathleen Kompauer, not only graduated from the institution and registered with the Association, but also went on to have as illustrious a career as Weiszmann.



An image of Edna Russell, the first woman to graduate from the engineering faculty's 1946 class, on the walls of the engineering building, University of Manitoba.

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This 1960 photo from the Grinding Geers for 100 Years features Wendy Woods, the second woman to graduate from the University of Manitoba, 14 years after the first woman.

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The Stats

Of the 15 women who were registered engineers from the period 1959 to 1975, seven of them were Manitobans. Further, the 28-year gap between the first University of Manitoba graduation – Edna Russell's and Kathleen Kompauer's – begs the question of why fewer Manitoban women were seeking careers in engineering at that time. One could argue that Europe's culture was more open and accepting of women looking to advance their careers than perhaps was the case in Canada. But change, of course, takes time. While by 1980, only 10 women were actively working in engineering, that number soared to 72 by 1990, a 2.1 percent increase in representation. By 2010, 396 women were practicing engineers, and by 2018, that number had jumped to 712.

Not only was the presence of women being felt by the steady increase in numbers with each passing year, but women in engineering were also making their voices heard. In 1996, the Association welcomed its first female president, Catherine Louise Stewart, P.Eng. The Association has since had six additional female presidents steering its Council.

The field of engineering is not the only one that has suffered a tremendous loss with the absence of female representation. The Association's first female geoscientist registration only happened in 1999.

End Goal

The Association is working diligently towards its goal of equity, diversity, and inclusion, not just for women, but for all minority groups so that practitioners reflect the diversity of the population. Here are a few of the ways in which the Association is working to meet the 30 by 30 goal:

- encouraging employers and stakeholders to look internally and address gendered biases and barriers, both systemic and individual;
- supporting women with mentorship opportunities and awards;
- providing guidance toward an education path in engineering;
- making women more visible as role models to students.

The Association has taken on the challenge of making this dream a reality with campaigns such as Engineering Changes Lives and the Manitoba 2030 Coalition. Ambitious? Certainly. Challenging? Most definitely. Achievable? Absolutely.