THE CANADIAN GEOTECHNICAL SOCIETY
LA SOCIÉTÉ CANADIENNE DE GÉOTECHNIQUE

Some of the First Women in Canadian Geotechnique

Suzanne Lacasse

Introduction to Geotechnique?

My father and uncles were civil engineers and at home there was talk of construction on soils, dams and foundations all the time. My father took me on his construction projects from a very young age; my mother always knew I would become a civil engineer. I was born and raised in Noranda in Abitibi-Temiscamingue, Québec and my father always said I was born on "varved clays".

As an undergraduate, I was initially interested in structures, but the geotechnical subjects soon became much more fascinating.

Other women in your classes?

I was alone among 45 males in civil engineering at École Polytechnique. There were two women among the 50 graduate students the years I was a student at MIT.

Difficulty getting your first job?

No, I had several job offers but decided to go to graduate school, on the advice of Professors Yves Lacroix and René Marche. I had not planned on graduate school; I thought I wanted to work on the dams in James Bay, in northern Québec.

Career focus?

Early in my career, I concentrated on laboratory techniques, *in-situ* methods and soil behaviour modelling; subsequently, foundation engineering and design, and slope stability for both structures on land and offshore. I like to combine numerical analyses with practical geotechnical engineering design. Since the early 1990s, I have applied statistics, probability and reliability to foundation design, and have worked on risk assessment and risk management for most types of geotechnical problems.

Involvement with CGS and other organizations?

I joined the CGS in 1970 and have been very involved ever since. I gave the Cross-Canada Lecture in 1994. I was President, the first female President, in 2003-2004. At present, I am a member of the Foundation and Heritage committees.

I am also currently an active member of 13 other national and international professional and technical societies. My philosophy has been, the more you get involved, the more you learn.

Education

- 1967 BA from Collège de Rouyn (affiliated to Université de Montréal)
- 1971 BScEng from École Polytechnique of Montréal (Université de Montréal); Civil Engineering
- 1973 MSc and MEng from MIT; Civil Engineering/Geotechnical
- 1976 ScD jointly from MIT and Ecole Polytechnique. My thesis was “Modelling of clay behavior with double potential plastic constitutive model”

Employment

- Academia: Ecole Polytechnique, MIT, and University of Oslo
- Industry: Ardaman & Associates and Exxon in the US; Total in France; LGM (now Deltares) in the Netherlands and Norwegian Geotechnical Institute (NGI), where I worked the longest, and was Managing Director from 1991-2011. NGI encourages its MDs to continue working technically on projects!
- I have been very fortunate to have been able to work in many countries in the world.

Notable Achievements

Too many to list. They include:

- Three honorary doctoral degrees; two honorary professorships; ten academy memberships and fellowships; and one knighthood (Iceland)
- Invited and keynote lectures in over 30 countries including the Terzaghi Lecture (US 2001), the Coulomb Lecture (France 2011), the Terzaghi Oration (ISSMGE France 2013) and the Rankine Lecture (UK 2015)
- In 2015, the ISSMGE established the annual “Suzanne Lacasse Honorary Lecture” on “Engineering Practice of Risk Assessment and Management”.

Who were your mentors?

At École Polytechnique: Professors René Marche, Yves Lacroix, Branko Ladanyi and Michel Soulié. At MIT: Professors Charles C. Ladd, Anwar E.Z. Wissa and Herbert Einstein. At NGI: Knut H. Andersen, Tom Lunne and Farrokh Nadim were my mentors.

On being a woman in a man-dominated profession?

I enjoy every minute of it. Raised with many brothers, I never saw a real difference working and interacting with women or men. At home, there was absolutely no difference between being a daughter or a son; everyone had the same tasks and the same rules, independent of gender.

I meet many female geotechnical professionals who do remarkable work and represent the profession and the feminine gender exceptionally well. I have only admiration for the way they manage a demanding profession and families as well as they do.

Advice to other women?

Seize the opportunities that you encounter during your career! Do not plan your progress to leadership positions; the opportunities will come and if you seize them and do well, your career will bloom.

Enjoy what you do and be yourself. In these ‘#metoo days’, do not be too critical of teasing and "camaraderie"; in most cases they are expressions of wanting to get to know you better.

Learn to communicate well, both writing and public speaking. Think about what your audience is interested in and not what you are interested in.

Do not be afraid of new tasks. Every task is doable if taken in small parts. When things seem difficult, ask for help. Sometimes, problems have a way of solving themselves! Do not work too hard.

Last words

Looking back, I don't think I could have been happier in any other profession.

The Canadian (especially) and international geotechnical communities are really very special, friendly, proud and devoted to continuing improvement. It is the interaction with colleagues, clients and the public that is the most rewarding.

Photographs

Suzanne presenting the 55th Rankine Lecture to the British Geotechnical Association and Institution of Civil Engineers in 2015. The topic was “Hazard, Risk and Reliability in Geotechnical Practice”.

In front of the Norwegian Geotechnical Institute, 2009