

D. Jean Hutchinson

Introduction to Geotechnique?

I loved the outdoors and geology as a child, loved to solve problems, and was encouraged to consider engineering, as a career, by my father, a professor of Civil Engineering. Geological Engineering seemed the perfect fit. As an undergraduate at the University of Toronto, I worked in mineral exploration for one summer and oil and gas for two summers. I had initially chosen oil and gas as a career, however, the industry downturn in 1984 intervened and I ended up working with the Ontario Ministry of Transportation and Communication in construction management. After two years with the MTC, the geotechnical field beckoned, and I enrolled in a Master's program at the University of Alberta, and that led to a PhD at the University of Toronto, with Evert Hoek as my supervisor.

Other women in your classes?

During my undergraduate days there were less than 5% women in Canadian engineering university programs. There was one other woman in my class of Geological Engineering students. This trend continued, with some improvement, through grad school.

Difficulty getting your first job?

Because of the economic downturn in 1984, I sent out 200 resumes and was lucky to get a job with the Ontario MTC. Even before graduating with my PhD, I was fortunate to work part-time as a research engineer on a number of geotechnical and mining projects. That led immediately, upon graduation, to full time research, then consulting work.

Involvement with CGS and other organizations?

I have been a CGS member since 1987. Among other positions, in the late 1990s I was the Rock Mechanics Division Chair and Division Rep on the CGS Executive Committee; I was an Associate Editor of the *Canadian Geotechnical Journal* (2002-2005); I am a member of the Canadian Foundation for Geotechnique (2012-present), and I have helped organize a number of CGS-affiliated conferences. I am also a member of many other organizations. For example, the Canadian Rock Mechanics Association (past Chair); NSERC's Strategic Grant Review Committee (past Chair); (US) Transportation Research Board; and Women in Mining Trailblazer Award Committee (current Chair).

Education

- 1984 BSc in Geological Engineering; University of Toronto
- 1988 MSc in Civil Engineering/Geotechnical; University of Alberta; thesis "*Influence of pore water salinity on the strength of piles in frozen silty sand*"
- 1992 PhD in Geotechnical Engineering; University of Toronto; thesis "*Cablebolt reinforcement of open stopes at Ansil mine*"

Employment

- 1984-1986 Ontario Transportation and Communication; construction management
- 1988-1994 Part-time, then full-time, Research Engineer on mining-related projects in Canada, Zimbabwe and Australia
- 1994-1997 Klohn Crippen Consultants Ltd. in Sudbury
- 1997-2001 Assistant Professor, University of Waterloo, Earth Sciences
- 2001-present Assistant, then Associate, then Full Professor and Head (2009-2017), Queen's University, Geological Sciences/ Geological Engineering

Notable Achievements

- 2001 CGS Stermac Award
- 2003 CGS John A Franklin Award
- 2009 Queen's Golden Apple Engineering Teaching Award
- 2011 Fellow EIC
- 2011 CGS RM Quigley Award
- 2013 CGS Thomas Roy Award
- 2013 World Congress on Railway Research Best Paper
- 2016 CGS and AEG Robert L Schuster Medal
- 2016 Queen's Excellence in Engineering Education Award
- 2017 EIC CP Rail Medal
- 2017 Queen's TG Flynn Advancement Award

Career focus?

Rock engineering, slope stability, ground subsidence, instrumentation and monitoring, remote sensing and GIS, soil mechanics, permafrost, risk assessment, and of course education associated with geological engineering.

I have been very fortunate. My career has taken me all over Canada, and to Zimbabwe, Australia, Papua New Guinea, Slovakia, Greece, England, France, Norway, Switzerland and Chile.

Who were your mentors?

As a student and to this day, Evert Hoek has been an exceptional mentor providing candid and wise counsel. Others have included Dougal McCreath and Peter Kaiser (Laurentian U), Alan Thompson and Chris Windsor (CSIRO, Australia), Fred de Lory and John Curran (UofT), and Dave Sego (UofA).

Evert Hoek 'introduced' me to Mark Diederichs, my husband. Mark and I have had a true partnership in our work and in raising our two daughters who are both now studying engineering!

In later years, Suzanne Lacasse (NGI) became a role model for me. She has the ability to carry out exceptional engineering, to communicate clearly, and to be a friend to, and inspire, so many.

On being a woman in a man-dominated profession?

At times, being a woman in a male-dominated profession was a bit like travelling in a foreign land! Thankfully, my parents encouraged us to undertake every activity, including world travel, without concern for gender and to always bring our best efforts.

Generally, I do not identify as a "female engineer", but when I do, I am determined to show that I am as qualified as the next engineer and to remove obstacles for others. In my department, more than 50% of my colleagues are women; and 50% of our engineering students are women.

Advice to other women?

To both men and women. The geotechnical field is tremendously exciting and fulfilling. The earth provides tremendous opportunities, challenges and responsibilities, and a great variety of complex problems with uncertain data and knowledge. Engage passionately and with integrity in the field; travel widely to broaden your personal and professional experiences; volunteer your time and promote our work to the public.

Photographs



Jean with some of her Queen's students in 2017



Jean Hutchinson, Head, Queen's University, Department of Geological Sciences and Geological Engineering 2009-2017