

Becoming Leaders – a Success Story

This is the story of “the little handbook that could”.

In the Beginning

In 1998, the Natural Sciences and Engineering Council of Canada (NSERC) established five regional NSERC Chairs for Women in Science and Engineering in universities across Canada. The goal of the program was to increase the participation of women in science and engineering, and to provide role models for women active in, and considering, careers in these fields.

The inaugural NSERC/Petro-Canada Chair for the Atlantic Region (1997-2002) was Dr. F.Mary Williams who was appointed Professor in the Faculty of Engineering and Applied Science at Memorial University of Newfoundland. Carolyn J. Emerson, a biologist at the university, joined Dr. Williams as the Professional Assistant to the Chair (CWSE) in 1998.



F.Mary Williams & Carolyn J. Emerson

The underpinning strategies of the work of the Chair were:

- *Leadership.* Leadership is necessary for organization change, and we can lead from wherever we are as students and professionals.
- *Excitement* in science and engineering is a strong motivator for women to enter and remain in these fields.
- *New Traditions.* Many of the factors which overtly or subtly deter women from science and engineering careers are deep and systemic in institutions where we work - the fundamental assumptions, the habits, and the traditions. CWSE projects aimed to identify these traditions, and to give institution leaders the rationale and the confidence to implement change.

Among the programs and activities of the CWSE, a major one was organizing and co-hosting (with Women in Science and Engineering, Newfoundland and Labrador) *New Frontiers, New Traditions – A National Conference for the Advancement of Women in Engineering, Science and Technology*, July 2000. This was the 8th in the series of biennial conferences of the Canadian Coalition of Women in Engineering, Science, Trades and Technology (CCWESTT), and drew 275 participants from Canada and beyond.

Important information on the status of women in these fields, research into factors affecting their participation and advancement, and effective practices to enhance recruitment, retention and advancement were shared at the conference, including in workshop format. As a legacy from the conference, the CWSE engaged consultants and colleagues to aid in the development of initial workshops for professional women and students in the Atlantic Region.

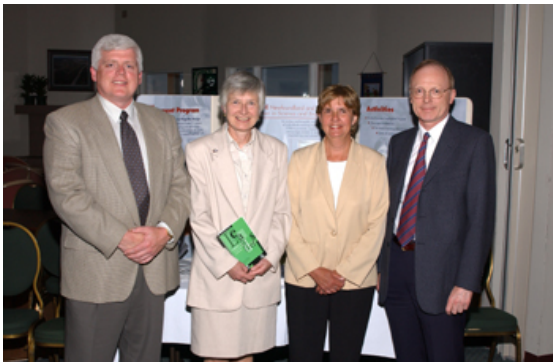
Building on this knowledge and workshop outcomes and in order to address the gap in practical advice for technical women, Dr. Williams had the idea of writing a handbook with sections addressing specific topics and audiences, and drawing upon the direct experiences of the women with whom we were interacting. *Becoming Leaders: A Handbook for Women in Science, Engineering and Technology* was born.

Individual sections of the book were informed by and reviewed by our colleagues who were the designated audience for that topic. For example, children and partners of women scientists and engineers reviewed the section on Family Support.

The Handbook built on the findings of our work and the research of others in the field:

The key aspect of reaching critical mass in the workplace is the advancement of professional women into senior and leadership positions. Some initiatives to support the career development of professional women put positive programs in place but do not engage the women themselves. The underpinning of this handbook was the principle that women are responsible for their own careers. Women would gain the confidence to take charge and the tools to achieve positive results.

Becoming Leaders had information that was **accessible and practical** for an audience of professional women and students in science and engineering, and managers interested in their progress. The handbook was intended for busy people, whose interest was primarily their careers or the development of the human resources in their organization. Hence much of the information was given in point form. Supporting each point was substantial social/education/psychology research, and references and a bibliography were given for those interested in that information.



Ed Martin, VP Petro-Canada, Mary Williams, Carolyn Emerson, Axel Meissen, Pres. Memorial University of Newfoundland

The Handbook was co-published by the CWSE and WISE NL and printed and distributed through the Chair's resources at Memorial University. It was launched locally in the spring of 2002 in St. John's, and later had its international debut at the joint CCWESTT / International Conference for Women Engineers and Scientists (ICWES) in Ottawa, July 2002.

After the publication of the Handbook, more workshops were developed and delivered for local audiences, with *Becoming Leaders: An Introduction to Leadership Skills and Strategies* being the flagship offering. It was later adapted by Dr. Williams for delivery within the Public Service of the Canadian Government and also for industry partners. When that workshop was offered at the ICWES conference in 2002 and the room filled to overflowing, along with great interest in obtaining the Handbook at our booth, we suspected we had a 'hit'.

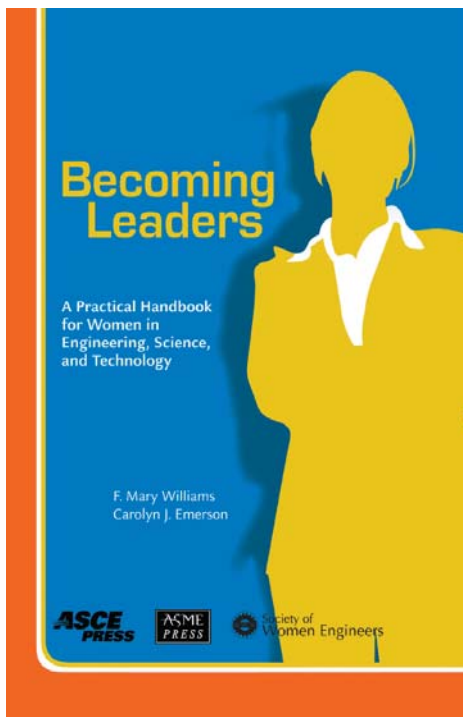


A Successful Venture

Reviews in technical publications and among women in science and engineering organizations were very positive and there were several printings of our original run of 1000 copies. Other factors also accelerated demand for the Handbook. Scholars at several universities in the US used the book in their courses, workshops and leadership programs. Drs Rachelle Heller and Catherine Mavriplis at The George Washington University and Dr. Judy Vance at Iowa State University were very strong supporters. Further, Carolyn Emerson, a member of the Society of Women Engineers based in the US, gave several presentations on the book and workshops, and she and enthusiastic friends and colleagues marketed the book at a booth at the large SWE National Conference in Detroit in the fall of 2002. Interest grew and sales took off. The original book was even translated into Japanese by the Japanese Women Engineers Forum, and was also available in French within the Canadian Public Service.

By this time, the term of the Atlantic CWSE had ended with Dr. Williams returning as Director General to the Institute for Marine Dynamics, a Canadian federal research lab, and Carolyn Emerson beginning a new career as a consultant. They continued to deliver occasional workshops and Carolyn distributed the book from her home office, the two authors having taken over the intellectual property of the publication and distributing it through a partnership.

A New Leap Forward



A chance encounter at a *Women in Engineering Leadership Institute* forum in Connecticut in 2004 put Carolyn in touch with a representative of the American Society of Civil Engineers (ASCE) which has a publishing arm. Fruitful discussions ensued and there was an agreement to publish a new offering - *Becoming Leaders: A Practical Handbook for Women in Engineering, Science, and Technology* by the ASCE Press.

The new book was created with additional sections, new research, and both US and Canadian data and references. The Society of Women Engineers was strongly supportive as well, and they and the American Society of Mechanical Engineers joined the ASCE as co-publishers when the first book rolled off the presses in 2008. Again, reviews were very positive and sales in North America and internationally accelerated. As of 2014, it is estimated that > 5000 copies of the handbook have been distributed around the world since 2002.

Becoming Leaders is an excellent resource, providing extensive practical strategies to promote and assist women in STEM careers. As more and more women enter these areas of employment, they will demand changes that will make STEM workplaces more welcoming to women. (M. Reilly, Association for Women in Science)

New Opportunities and Growth

In 2009, CCWESTT, the umbrella group for organizations supporting technical women in Canada, established the Canadian Centre for Women in Science, Engineering, Trades and Technology (WinSETT Centre) as its ‘operational’ arm.

Recognizing the proven value of the *Becoming Leaders Handbook*, workshops and philosophy, the WinSETT Centre obtained consent to offer *Becoming Leaders: An Introduction to Leadership Skills and Strategies* with the Handbook as a resource, and to tailor it to expanded audiences in industry, professional associations, academia, etc. As of Jan. 2014, WinSETT had delivered 25 *Becoming Leaders* workshops to > 500 women across Canada with very positive outcomes and reviews. *Becoming Leaders* is the introductory module and sets the underlying themes and values for the WinSETT’s comprehensive Women in SETT Leadership Program of workshops (www.winsett.ca).



Becoming Leaders has enjoyed continuing growth and success in ways that the authors could not have imagined in 2001. We acknowledge all those individuals and organizations who have supported it, and us, along the way. Thank you.

We continue to smile broadly at the thought of the “little handbook that could.”

Becoming Leaders: A Practical Handbook for Women in Engineering, Science, and Technology by F. Mary Williams and Carolyn J. Emerson, 2008. 200 pages. Published by ASCE Press, Reston VA, ASME Press, New York, and Society of Women Engineers, Chicago, IL.

<http://www.asce.org/Product.aspx?ID=2147487569&ProductID=180135202>