The Canadian Challenge: Attracting and Retaining Women in Physics

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Abstract

Canada continues to face a challenge in attracting women and retaining them in physics-related positions. The challenge will remain as long as there are so few female role models to influence girls and young women in schools and universities. A decade ago, an international study on gender distribution in Physics Departments (1) showed that the representation of women in North American Physics Departments was of the order of 4% compared to 23-47% in Western and Eastern Europe. In 1995, the Committee to Encourage Women in Physics (CEWIP) of the Canadian Association of Physicists (CAP) sponsored a survey of Canadian Physics Departments in Colleges and Universities to survey women in physics. The findings (2) showed that although women obtained 18% of the B.Sc. degrees in physics and 13% of the Ph.D. degrees, only 5% of faculty members and 2% of tenure faculty members were women. At the time, 11% of Faculty positions were tenure-track positions and women held 28% of these positions. The numbers gathered six years ago painted a rather bleak picture in which 80% of the 40 Canadian Universities that responded to the survey had either one or no woman on faculty while 45% had none at all. The results of a new survey being conducted in 2001-2002 show some substantial improvement, with women now holding 8% of all faculty positions, 5% of the tenured positions and 21% of the tenure-track positions. The fraction of physics departments with one or no woman faculty member has fallen steadily since 1995 and it is particularly pleasing to note that only 10% of the Ph.D.-granting departments now have no woman faculty member, compared with 36% in 1995. The indication from a Statistics Canada Labour Force survey is that, in 2000, 2.8% of women worked in the Natural Sciences, Engineering and Mathematics fields compared to 1.8% in 1987.

This poster mentions some of the programs which were implemented to improve the Canadian environment for women in physics, developed to promote scientific leadership amongst young women and established to provide role models to school children and valuable partnerships with elementary and secondary school teachers. It is clear that much remains to be done to empower girls and young women to take up physics when there are so few role models to encourage them to do so. While progress is being made, there is still a problem of women dropping out of physics programs at each level and there is a very low representation of women at the most senior levels in Universities, Industries and Government laboratories.

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In recent years a number of programs have been implemented to help improve the environment in Canada for women in physics. In 1997, the Canadian government funded five new Chairs for Women in Engineering and Science (CWES) through the Natural Sciences and Engineering Research Council (NSERC). NSERC also instituted the University Faculty Awards program to encourage universities to hire women and aboriginal peoples in tenure-track positions by offering partial salary support for five years with a guaranteed NSERC research grant. Another successful program is the NRC-run Women in Engineering and Science (WES) program. This program awards twenty-five new fellowships yearly allowing undergraduates in science and engineering to work at NRC for three consecutive summers. One program that provides role models to school children and professional development for science teachers is the award-winning “Let’s talk science” program. Prominent role models have been played by the Canadian female astronauts, Drs. Roberta Bondar and Julie Payette, who inspire young women to pursue studies in science and engineering.

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