

International Conference on Women in Physics
Maison de l'UNESCO, Paris, France
7-9 March 2002

Conference Resolutions

Introduction

Physics plays a key role in understanding the world we live in, and physicists contribute strongly to the welfare and economic development of nations. The knowledge and problem-solving skills of physicists are essential in many professions and industries and to society at large. To thrive in today's fast-changing, technological world, every country must achieve a highly educated population of women and men, fully engaged in making decisions important to their well being.

Thus a knowledge of physics is an important part of general literacy for every citizen. In addition, advancing physics understanding is an exciting intellectual challenge that benefits from the diverse and complementary approaches taken by both women and men from many cultures. Currently women can and do contribute to this quest and, through physics, to the welfare of humankind, but only in small numbers: women are an underutilized "intellectual reserve." Only when women participate fully as researchers in the laboratory, as scientific leaders and teachers, and as policy makers will they feel equal partners in a technological society.

The ideas in these resolutions are aimed at bringing more women into the mainstream and leadership of physics. They were unanimously approved by over 300 physicists from 65 countries attending the first International Conference on Women in Physics, held in Paris, France, 7-9 March 2002.

Each country is different. Thus the conference participants are translating these resolutions into their own languages. In the translation, the ideas in the resolutions will be appropriately phrased and directed to the responsible entities in each country.

1. Resolution Directed at Schools and Their Government Sponsors

Girls should be given the same opportunities and encouragement as boys to learn physics in schools. When parents and teachers encourage girls, it strengthens their self-confidence and helps them advance. Methods and textbooks used in teaching physics should include those that have been shown to interest girls in physics and foster their success. Studies show that young girls have a strong desire to help improve people's lives, and therefore it is important that they have the opportunity to see ways that physics has a positive impact on society.

2. Resolutions Directed at Universities

2.1 Students

Universities should examine their policies and procedures to ensure that female students are given an opportunity for success that equals that of male students. All policies that perpetuate discrimination should be abolished, and policies that promote inclusion should be adopted.

This may involve adopting such practices as: using a broad interdisciplinary approach to physics; providing flexible entry criteria to the physics major; allowing early participation in research; providing mentoring; and exposing students to the important contributions physics makes to other sciences, medicine, industry and the quality of daily life. Adopting these practices will have an especially positive effect on young women, who often feel isolated and unwelcome in physics.

2.2 Faculty and Researchers

Recent studies have shown that, even at top research institutions, women scientists have not been treated fairly with respect to their male colleagues. This is not only very harmful to women in science but in the long run will be harmful to science as well. Universities must examine and communicate their policies and practices to make sure that they promote equity; it is of key importance that universities guarantee transparent and fair mechanisms of recruitment and promotion. Additional important elements for success are access to research funding and facilities and sufficient time for research.

Having a family should not be allowed to impede women's participation in scientific careers. A family-friendly environment that provides such things as child-care facilities, flexible working schedules and employment opportunities for dual career families will enable career success.

University governance has been found to be dominated by men. Women need to be included in university and physics department governance, particularly on key policy committees. Women must have input into those policies that control their own destinies. It is important for the development of young women physicists to see successful women active in research, teaching and leadership.

3. Resolution Directed at Research Institutes

Research institutes will benefit from policies that allow women scientists to be successful. Institute directors should make sure that policies that promote gender equity in recruitment and promotion are adopted and enforced. Too often what has been termed a "glass ceiling" is allowed to stop the advance of women's careers.

Institute directors should take an active part in ensuring that family-friendly practices such as child-care facilities and flexible working schedules are available to all. Surveys repeatedly show that a leading concern of women is balancing career and family life; having a family should not be allowed to impede successful participation in scientific research.

4. Resolution Directed at Industrial Laboratories

Industrial laboratories will benefit from policies that allow women scientists to be successful. Industrial managers and research directors should make sure that policies that promote gender equity in recruitment and promotion are adopted and enforced. Too often what has been termed a "glass ceiling" is allowed to stop the advance of women's careers.

Industrial managers should take an active part in ensuring that family-friendly practices such as child-care facilities and flexible working schedules are available to all. Surveys repeatedly show that a leading concern for women is balancing career and family life; having a family should not be allowed to impede successful participation in scientific research.

5. Resolution Directed at Scientific Societies

Scientific and professional societies can and should play a major role in increasing the number and success of women in physics. Each society should have a committee or working group that is responsible for such issues and that makes recommendations to the society as a whole. At a minimum societies should do the following things: work with other organizations to collect and make available statistical data on the participation of women in physics at all levels; identify women physicists and publicize them as role models; include women on program committees and as invited speakers for society-sponsored meetings and conferences; and include women on editorial boards of society journals.

6. Resolution Directed at National Governments

Physics plays a key role in understanding the world we live in, and physicists contribute strongly to the economic and cultural development and welfare of nations. It is therefore in every nation's self-interest to provide strong physics education for all its citizens and to support advanced education and research. Governments must ensure that women have the same access and chance for success in research and education as men. National planning and review committees should include women, and awards of government funds should only be made to organizations and institutions that make gender equity a part of their policies.

7. Resolution Directed at Granting Agencies

Agencies that make funding available for scientific research play a key role in promoting the success of individual scientists as well as science as a whole. Past studies have shown evidence for gender bias in the review process. Therefore, to ensure that women have the same access to research funding as men, all competitions for funding should be transparent and widely publicized; the criteria for obtaining funds should be clear; and women should be included on all review and decision making committees. Limits on age of eligibility or grant structure and duration that seriously disadvantage applicants taking family leave should be reconsidered. Granting agencies should maintain and make available statistical data by gender, including such information as the proportion and qualifications of women and men who apply for funding and who obtain funding.

8. Resolution Directed at IUPAP

IUPAP is the international organization of physicists and as such exerts considerable influence on the physics community through its statements and activities. IUPAP should both endorse the above resolutions aimed at other groups and also examine its own actions to make sure that they contribute to increasing the number and success of women in physics. It will also be valuable for IUPAP to communicate the results of this conference to international scientific organizations in other fields. In the election of IUPAP's Executive Council and Commission members, procedures should be instituted to ensure the full inclusion of women. IUPAP sponsors major international conferences; a criterion for such sponsorship should be the demonstration that women are included on the International Advisory Committees and Program Committees. IUPAP should require conference organizers to report gender distribution of invited speakers. IUPAP should encourage all of its national Liaison committees to include women among their members. Liaison committees should also advocate these resolutions in their countries. IUPAP should continue its Working Group on Women Physics and empower it to establish an international advisory committee with a member in as many countries as possible. Finally, this group will form the basis of a network that can continue the work of increasing the number and success of women in physics.