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Organizing Women in Physics Working Groups

Corinna Kausch^a, Gillian Butcher^b, Marcia Barbosa^c, and Rachel Ivie^d

^a*GSI Helmholtz Centre for Heavy Ion Research, Darmstadt, Germany*

^b*Space Research Centre, Department of Physics and Astronomy, University of Leicester, Leicester, UK*

^c*Instituto de Física, Universidade Federal do Rio Grande do Sul, Porto Alegre, Brazil*

^d*Statistical Research Center, American Institute of Physics, College Park, Maryland, USA*

Abstract. The creation and maintenance of women in physics working groups requires human resources, ideas, planning, and funds. Working groups facilitate the improvement of women's situations in physics around the globe. Physical societies, which could help fund working group activities, financially support few working groups for women in physics. This paper presents recommendations and examples of best practices resulting from the workshop, Organizing Women in Physics Working Groups, presented as part of the Third IUPAP Women in Physics Conference, Seoul, 2008.

Keywords: women in physics, gender, working groups

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Women in physics (WIP) working groups help improve women's situations in physics around the globe, but they require human resources, ideas, planning, and funds. The Organizing Women in Physics Working Groups workshop of the Third IUPAP Women in Physics Conference sought to both educate participants and get their ideas, in three sessions of presentations and plenary discussions:

- Session 1: How to Establish and Keep Alive a Working Group/Network
- Session 2: Women in Physics Groups / Useful Things to Do
- Session 3: Finding Information About Female Physicists / Surveys, Government Databases, and More

A collection of best-practice examples and recommendations from the workshop will be available on the IUPAP Working Group on Women in Physics website (www.iupap.org/wg/wip/).

BUILDING A WORKING GROUP

The first session of the workshop, Building a Working Group, consisted of the following four presentations and discussions:

- Mmantsae Diale: Starting a WIP Group in the South African Institute of Physics
- Renee Horton: Starting a WIP Group Within the National Society of Black Physicists (U.S.)
- Bojana Hamzic: Forming a WIP Group within the Croatian Institute of Physics
- Karimat El-Sayed: Egypt—How to Establish and Keep Alive a Networking Group in Physics

This session was aimed at countries that do not yet have a working group or where working group(s) are not sufficiently active. Of the 57 countries represented at the WIP conference only a few have working groups supported by their nations' physical societies, particularly to a degree that allows groups to carry out activities. In many countries the number of female physicists is so small that it is unrealistic to expect them to have large and active working groups. Countries with the same kinds of issues within geographical regions could form regional working groups, which might be the solution. It is important that working groups be linked to the physical societies of the region. Acceptance by the societies would add more authority to the groups.

A working group needs a responsible leader able to spend substantial time on building the group. Unless a female physics professor is found with available time and energy, it may be preferable to select someone early in her career. Work as the head of a working group could prove to be a career advantage, but a young person alone might be challenged in getting proposals approved or dealing with leading (and mostly male) physicists. An advisory panel of senior women physicists would be helpful and a way to keep these more experienced professionals involved without placing excessive demands on their time or effort. In any case, working groups should avoid setting unrealistic goals and timelines. All problems cannot be solved at once or by one person.

Frequent contact between group members is vital. In large countries it is impossible to meet every month, so regular contact through various means of communication is important. Small meetings of group members in the

same area; monthly or weekly lunches for all female physicists in an institution; and well organized, updated websites are options for members to interact, as well as help groups raise their profiles, find support, and attract new members.

The tasks facing working groups are different in each country or region. Opposition from men is almost never a problem in South Africa, whereas it can be an impediment in countries such as Germany and Egypt. Similarly, the WIP group within the National Society of Black Physicists in the U.S. met with great resistance at its formation. In Croatia, as in most ex-socialist eastern European countries, legal rights for women were established after World War II, leading to the assumption that there was no longer gender discrimination. However, Croatia's working group met resistance from male colleagues, as well as females. Croatia does have equal promotion rules and salaries for males and females.

Many issues concerning women physicists also concern women in engineering and other fields. Networking with such groups can be beneficial to reaching a critical mass for addressing issues. Interdepartmental communication in universities to share ideas regarding child care, grant proposals, and other topics is cost-effective.

BEST PRACTICES FOR WORKING GROUPS

The Best Practices for Working Groups Session began with these reports:

- Hannelies Kluge: The Situation of German Female Physicists in 2008: Examples of Good Practice
- Lilia Meza-Montes: Organizing A Regional Conference (Mexico)
- Arthur Bienenstock: The American Physical Society Gender Equity Conference
- Gillian Butcher: Women in Physics in the UK

The focus this session was good-practice examples for working groups. Speakers from Germany, Mexico, the U.S., and the UK presented examples of their working groups. In Germany and Mexico annual meetings of female physicists are held with great success. The American Physical Society held a Conference on Gender Equity in May 2007, attended by chairs and representatives from highly ranked academic departments, national laboratories, the National Science Foundation, and the Department of Energy (most attendees were male). The support and encouragement of the funding agencies, NSF and DOE, led to solid attendance.

Conferences can be national or regional. They can exclusively address physics or apply to the broader fields of the sciences. The number of likely attendees and their travel distances may be determining factors.

As gender equity is already well anchored in the British body of thought, many activities are carried out by the Diversity Programme and Women in Physics Group, both part of the Institute of Physics. Activities include conducting gender-related research, collecting statistics and producing subsequent reports, presenting personal development workshops, sponsoring student events, awarding an early career prize, and linking with an advisory panel. Recent UK national legislation, the Gender Equality Duty, requires all public bodies to be actively engaged in addressing gender imbalances.

The physical society in Germany annually awards the Hertha Spöner Prize, initiated by the working group, to a young female physics researcher. Awards for women physicists are also given in China, the U.S., and the UK. Women often feel more comfortable applying for women-only jobs or awards. Professional development workshops are also offered in the U.S., the UK, and Germany.

One of the most important questions is how to get men involved. There are men who are interested in and care about gender issues for a variety of reasons. They should actively be sought out.

SURVEYS

Working groups in Germany, Argentina, and Japan have used surveys to assess the situation of women in physics. The results of these surveys, and of American Institute of Physics international surveys, were presented during the third session of the workshop:

- Corinna Kausch: Female Physicists in Germany Earn Less than Their Male Colleagues
- Silvina Ponce Dawson: About Surveys on the Situation of Women in Science
- Miyoko Watanabe: Diverse Vision of Scientists and Engineers for the Promotion of Gender Equality in Japan
- Rachel Ivie: Global Survey of Physicists

One of the main findings in Germany was that women with equal qualifications earn less than their male colleagues over their careers because of time taken away for child care. A large "scissor effect" in Argentina likely exists because it is more difficult for women to accumulate professional experiences when they are involved in childrearing. Some institutions have age limits. Japan has conducted three surveys that show gaps between men and women in job position, number of children, and child care leave. These gaps more often affect older women.

For the first and second WIP conferences, the American Institute of Physics (AIP) conducted surveys to assess how the situation of female physicists differs from that of males. AIP also recently reviewed surveys carried out by other nations. The survey conducted in association with the third WIP conference aims to ensure compatibility of data across countries. The results will be posted on AIP's website and actions implemented in 2009. To encourage broad participation, the questionnaire will be translated into languages other than English and will include men. Participating countries are invited to comment on the draft version of the questionnaire, with one individual delegated to communicate with AIP. A common report will be prepared by AIP at the end of the survey. If a country has enough respondents to preserve confidentiality, AIP will provide that country's data to them, so that they may determine future courses of action. AIP's work helps those countries without working groups or adequate resources to conduct their own surveys.