

SUMMARY OF RESULTS AND RECOMMENDATIONS: THE APRIL 1998 INTERNATIONAL WEPAN WORKING SESSION

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WEPAN held a Working Session in London on April 27-28, 1998 to collaboratively explore the possibilities of developing a global strategy for WEPAN's international activities. A dozen countries were represented at this meeting; and, the executive directors of the Association of Women in Science (AWIS) and the American Association for the Advancement of Science (AAAS) joined the Women in Engineering Programs & Advocates Network (WEPAN) in promoting and facilitating this meeting.

The overall purpose of this working session was to begin to strategically address the global need for broader participation of underrepresented groups in engineering and the related sciences. The specific objectives for this first meeting were to: identify appropriate programs and activities that meet the needs of individual countries; identify creative strategies for effecting systemic change; identify collaborative organizations and key people in those organizations; identify other countries that should be invited to participate; and identify specific types of collaborative projects. The primary outcome of this meeting was a call for a series of conferences or working sessions that would provide the opportunity to offer technical assistance in certain programmatic areas and to showcase the best practices for recruitment and retention of women and minorities from different countries. Coupled with this outcome, several individuals made commitments to assure that funding for these efforts happened.

After two stimulating presentations by Dr. Jane Grimson, Dean of Science and Engineering at Trinity College in Dublin, Ireland and Dr. George Peterson, Executive Director, the Accreditation Board for Engineering and Technology in the US, the participants were led in a facilitated discussion by Dr. Shirley Malcom, Head, Directorate for Education and Human Resources, AAAS. The intent of the opening presentations was to examine new paradigms of thinking about systemic change within the engineering infrastructure in industry and academe (windows of opportunity), to begin to think about how to integrate the skills and talents of underrepresented groups into engineering, and to discuss how the value added by creating a diverse workforce can best be conveyed to the public as well as individuals who can influence change.

The recommendations that emerged from the working session were:

- Be a catalyst for the preparation of country-specific white papers that provide a clear, concise message about the value of diversity in engineering. Provide tangible arguments developed from an engineer's perspective and examples of the value added by creating a diverse workforce. The reconceptualization of the value of diversity in engineering terms will provide the engineering discipline, and the nation, with an important new understanding of this vision.
- Identify and recruit representatives from countries not represented at this meeting to participate in this global partnership, including but not limited to:
 - * Africa
 - * Japan
 - * China
 - * Australia
 - * South America
 - * New Zealand
 - * Other European countries
- Identify international best practices and proven reforms for the increased participation of women in engineering.
- Hold a series of international conferences to provide technical assistance and training and to showcase international best practices for increasing the participation of women in engineering.
- Develop networks and partnerships with:
 - * non-women in engineering organizations
 - * women and minorities in science and engineering organizations
 - * media
 - * professional associations
 - * industry
 - * governmental agencies
 - * educational institutions
 - * community groups
 - * engineering accreditation agencies and boards

- Conduct research on issues pertaining to underrepresented groups internationally, including:
 - * international comparative studies of academic enrollments, retention and degrees granted to all students by gender and race;
 - * international comparative studies of the engineering faculties by gender and race;
 - * international comparative studies of the engineering workforce by gender and race;
 - * measurement tools for assessing the climate in engineering and student outcomes;
 - * curriculum transformation, including focus on environmental and social issues, accountability communications, and life skills;
 - * incentives for faculty to facilitate a positive change in the academic climate;
 - * evaluative studies of the effectiveness of recruitment and retention programs, e.g., mentoring programs.
- Be a catalyst for the development of compatible country-specific databases reflecting the composition of students, staff and faculty in academia, and employees in industry, government and the non-profit sectors.
- Identify sources of funding for collaborative work.
- Disseminate information internationally
 - * Share information that is useful and effective in promoting change.
 - * Target and lobby key organizations that can effect positive change.
 - * Develop an international listserv to include all those individuals, institutions and organizations from different countries interested in a collaborative partnership.
 - * Identify and link Internet resources on related topics and organizations.
- Develop an action plan with specific objectives, measurable outcomes, timetable for implementation, constraints impacting the implementation plan, budget and evaluation plan. Seek 3 - 5 year funding to develop, implement and evaluate action plan.

Since the London Working Session, a number of actions have been taken.

- A listserv for participants and others expressing interest has been established and is now operational.
- Discussions with a potential US funding agency are underway to prepare a US white paper on the value of diversity in the engineering workforce.

- A proposal is being prepared: 1) to provide technical assistance and training to six institutions in six countries (Denmark, Ireland, France, Germany, Sweden and The Netherlands) to implement *A Curriculum for Training Mentors and Mentees*¹ and *Increasing Access for Women in Engineering*², and 2) to hold an international conference in 2000 showcasing education and industry best practices in the recruitment and retention of women in engineering.
- A number of institutions and organizations have committed to a collaborative partnership and to assist in fundraising.
- SEFI, the European Society of Engineering Educators, has agreed to facilitate collaboration and dissemination of projects and activities throughout the European community and to assist in fundraising.

REFERENCES

1. *A Curriculum for Training Mentors and Mentees* focuses on improving the current practices of mentoring with topics ranging from roles and responsibilities to cross-gender and cross-racial mentoring. It includes handbooks for students, faculty, professional scientists and engineers, an administrator's curriculum & guide, a bibliography of resources, stand-alone evaluation modules, a video of mentoring relationships, and a guide to using the video.
2. *Increasing Access for Women in Engineering: Administrator's Guide and Supporting Documents* focuses on: managing & evaluating programs, obtaining funding, assessing climate & student needs, developing pre-college retention and mentoring programs, and facilitating community college transfers.