THE CIC WISE INITIATIVE: 
THE VALUE OF CONSORTIAL ACTIVITY

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The Committee on Institutional Cooperation (CIC) is the academic consortium of the Big Ten universities and the University of Chicago. The CIC strives to promote communication and cooperation and to initiate consortial programs that will complement and enhance efforts taking place on the various campuses. With funding from the National Science Foundation, the fifteen campuses of the CIC1 have undertaken a comprehensive set of collaborative activities designed to achieve gender equity at each step along the science, engineering, and mathematics (SEM) pipeline. These activities target upper-division undergraduates, graduate students, and faculty women in SEM fields.

As a long-standing consortium of major research universities, the CIC offers several advantages not usually found in individual campus efforts that provide incentives and support for bringing about genuine institutional reform. They include better stability of programming as personnel changes occur; the ability to bring new partners up to speed quickly; greater local and national visibility; more effective program operation through economies of scale; vertical integration of programs, involving provosts, deans, department heads, faculty and students; and cooperation in a competitive environment, generating peer pressure to excel. The CIC infrastructure also contributes to the success of consortial

1 The CIC member institutions include the University of Chicago, University of Illinois at Urbana-Champaign, Indiana University, University of Iowa, University of Michigan, Michigan State University, University of Minnesota, Northwestern University, Ohio State University, Pennsylvania State University, Purdue University, and the University of Wisconsin-Madison. The Chicago campus of the University of Illinois, the Milwaukee campus of the University of Wisconsin, and the Indianapolis campus of Indiana and Purdue Universities are full participants in the CIC WISE Initiative. In addition, representatives from the American Association of Colleges and Universities (AAC&U), the Association for Women in Science (AWIS), and the Women in Engineering Programs & Advocates Network (WEPAN) serve on the CIC WISE Panel.
programs by providing a central staff for leadership, coordination, and support and by developing mechanisms to make cooperation easy – or at least possible.

Consortial programs are intended to achieve more and/or to do something better than a set of peer institutions would achieve or do by operating their programs separately and independently. Successful consortial programs provide competitive advantages for the participating institutions; they are sustainable over the long term; and they provide something for everyone. Impediments to cooperation generally fall into two related categories – unenlightened self-interest and enlightened self-interest. Faculty and staff may be reluctant to adopt a program that was "not invented here," that is not done "quite our way," or that appears to threaten their turf or autonomy. On the other hand, faculty and staff may believe that their institution will lose its competitive advantage if their program seems less visible. Furthermore, consortial programs may actually cost an institution more to operate than if they administered it independently.

The academic vice president of each institution appointed a representative to serve on the CIC WISE Panel. In addition to the regular meetings where members share information about their own campus programs, the CIC WISE Panel is responsible for coordinating consortial programs and for considering ways and means for sustaining and institutionalizing their efforts. The consortial activities under the CIC WISE Initiative include an annual Student Leadership Conference: WISE Strategies for Success; student travel grant competitions that support students who are presenting their research at professional meetings; Best Practices Workshops and Guidebooks for faculty and administrators; and publication of the annual CIC WISE Directory of Ph.D. Candidates and Degree Recipients and Postdoctoral Appointees and the report, Degrees Earned by CIC Women in Science, Engineering, and Mathematics: Baseline Data 1966 -- 1995.

**Program Components**

The Student Leadership Conferences, Strategies for Success, have been hosted by the University of Illinois at Urbana-Champaign (1997) and Michigan State University (1998) and will be hosted by Indiana University/Purdue University at Indianapolis in 1999. Each institution sends a delegation of up to twelve undergraduate and graduate SEM students to this two-day, fall conference. Sessions focused on mentoring and being mentored, resolving conflicts, presenting papers and posters, writing grants and proposals, applying for admission to graduate school and obtaining financial aid, resume writing for academic and other careers, and balancing family and careers. This year the participants suggested that a recruitment fair be added by inviting representatives from graduate schools and corporations. Student delegates are responsible for planning similar forums on their own campuses in the spring. These campus forums range in size from 50 to 75 participants.

Attending and presenting posters and papers at professional conferences is an important
component of the professional socialization process in all SEM disciplines. However, the cost of attending such meetings often prevents students from participating. WISE Student Travel Grant competitions are held twice a year. Both undergraduate and graduate students may be nominated by their institution. A CIC SEM faculty committee selects the awardees. Recipients receive $250 from the NSF grant plus matching funds from their institutions. In the first three years, 275 students have been awarded travel grants to present their research. However, 1,277 nominations have been received, which indicates a much larger need than was originally anticipated. Since only 21.5% of the nominees could be funded through the CIC, many of the institutions have provided additional travel grants to their own students -- more than doubling the total number supported.

The first three WISE Best Practices Workshops have been hosted by Purdue University, the University of Michigan, and the University of Wisconsin-Madison. They addressed teaching innovations and improving the classroom climate, undergraduate research and living-learning programs, and mentoring programs respectively. The emphasis is on how to transfer a successful project to a new institution and on how to provide the sustained support needed to fully implement the project on a new campus. Information regarding program content, climate, management, infrastructure, finances, and assessment is provided in sufficient detail to enable attendees to adapt these programs on their own campuses. Each presenter is expected to produce a manuscript for inclusion in the *WISE Best Practices Guidebook*, which is published annually and is also available on the CIC web site <http://www.cic.uiuc.edu>. Over 200 faculty and staff members have participated in these workshops. Given the size of our institutions, the biggest challenge for the WISE Panel is simply identifying the potential faculty and staff participants who would benefit professionally as well as those who would be in a position to implement a best practice on their own campuses.

A fourth Best Practices Workshop will be held next spring for the WISE Panel members and their staff. Sessions will address fundraising among corporations, foundations, and federal agencies; professional development; publicizing and promoting programs on campus; and institutionalizing programs and organizational structures.

**Evaluation and Assessment**

We are implementing a comprehensive, integrated evaluation plan that enables us to assess the quality of the individual program components for internal refinement and external application as well as to analyze both the impact of all WISE activities on enlarging the pool of women scientists, mathematicians, and engineers across the CIC and the extent of institutionalization of WISE programs on each campus. During the coming year, the LEAD (Learning through Evaluation, Adaptation, and Dissemination) Center at the University of Wisconsin-Madison will assess the impact of the WISE Initiative on enlarging the pool as well as the extent of institutionalization.
Baseline data on SEM degrees earned by women on CIC campuses has been compiled and published. Similar information regarding faculty will be compiled over the summer. The compilation of degrees conferred data provides the baseline from which we can measure the overall effectiveness of the CIC WISE Initiative programs in increasing the recruitment, retention, and advancement of women students in SEM fields at CIC institutions. By examining these data in more detail, we have also begun to identify campus programs and departments that have been successful and could be used as models for other CIC institutions. While the number and percentage of women earning bachelor’s, master’s, and Ph.D. degrees in SEM fields at CIC institutions has steadily increased over the last thirty years, both the amount and pattern of change vary by degree level, academic discipline, and institution.

- Between 1966 and 1995 the percent of CIC women earning degrees in SEM fields steadily increased: the percent earning bachelor’s degrees doubled (41%); the percent earning master’s degrees nearly tripled (39%); and the percent earning Ph.D. degrees increased by a factor of five (25%).

- In 1995, the CIC institutions accounted for 14% of the SEM Ph.D. degrees, 7% of the master’s degrees, and 6% of the bachelor’s degrees earned by women.

- At every degree level, the overall percent of women earning SEM degrees at CIC institutions is less than the percent of women earning SEM degrees across the U.S.

- When the CIC institutions are ranked by the number and by the percent of degrees earned by women in selected SEM fields, interesting and useful patterns emerge.

In engineering for example, three high ranking institutions present three very different patterns. Purdue ranks 1st in total number of bachelor’s degrees conferred and 2nd in the percent of women earning bachelor’s degrees. However, at the doctoral level, Purdue’s rank drops to 6th and 8th for number and percent. Michigan, on the other hand, ranks among the top three across all degree levels. Northwestern ranks 1st in the percent of women earning engineering degrees at every level, but not in the total number of engineering degrees conferred.

These rankings together with the individual institution profiles will help us identify effective colleges, departments, programs, and faculty members, which we believe will lead to more focused, disciplinary-oriented Best Practices Workshops. In addition, we anticipate that the outcome of the evaluation by the LEAD Center will provide us with the information we need to guide the CIC WISE Initiative in the coming years. Clearly, our work will continue after the NSF grant ends.

More information about the CIC, its programs, and the WISE Initiative is available on the CIC web site <http://www.cic.uiuc.edu>. The CIC WISE Initiative is funded by an NSF grant, HRD-9555812, and the fifteen CIC campuses.

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