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WOMEN IN ENGINEERING PROGRAM ADVOCATES NETWORK (WEPAN):

EVALUATION OF THE SEVENTH ANNUAL CONFERENCE

June 1-4, 1996

DENVER, COLORADO

MASTER

Prepared by:  
Suzanne G. Brainard, Ph.D.  
President, WEPAN

University of Washington  
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We would like to gratefully acknowledge the work of Ms. Tracey Carr, a senior at the University of Washington and WIE Student Staff Member. Ms. Carr prepared the analysis of the questionnaires and formatted and outlined this report.

**WOMEN IN ENGINEERING PROGRAM ADVOCATES NETWORK (WEPAN):  
EVALUATION OF THE SEVENTH ANNUAL CONFERENCE**

**June 1-4, 1996  
DENVER, COLORADO**

**CONFERENCE OVERVIEW**

The primary goals of the 1996 WEPAN Conference were to:

1. Conduct technical and programmatic seminars for institutions desiring to initiate, replicate, or expand women in engineering programs;
2. Provide assistance in fundraising and grant writing;
3. Profile women in engineering programs of excellence;
4. Sponsor inspiring, knowledgeable and motivational keynote speakers; and,
5. Offer a series of workshops focused on topics such as: establishing partnerships with industry, current research findings, retention strategies, issues affecting special populations, and early intervention techniques.

In an effort to provide greater access for women to engineering careers, women in engineering program directors at Purdue University, Stevens Institute of Technology and the University of Washington joined together in 1990 to establish WEPAN, a national network of individuals interested in the recruitment, admission, retention, and graduation of women engineering students. This is the seventh year of operation. Success of this effort has been reflected in numerous ways: increased membership in the organization; increased number of women in engineering programs; increased number of women graduating in engineering; and grants from the U.S. Department of Energy, the National Science Foundation, the Alfred P. Sloan Foundation, the AT&T Foundation, and many other corporations to carry out the goals of WEPAN.

The Seventh Annual Women in Engineering Conference entitled, *Capitalizing on Today's Challenges*, was held in Denver, Colorado on June 1-4, 1996 at the Hyatt Regency. The conference brought together representatives from academia, government, and industry and examined current issues and initiatives for women in technology, science, and education. Building on the successes of the previous conferences, the seventh conference offered a new variety of speakers and topics.

## **CORPORATE SPONSORS**

The U.S. Department of Energy was the prime sponsor of this year's conference. Our deep appreciation for their continued and generous support.

The other conference contributors were as follows:

Alcoa Foundation  
AT&T Foundation  
Corning Incorporated  
Dow Chemical  
DuPont Company, Inc.  
IBM Corporation  
Microsoft Corporation  
Mobil Corporation  
NASA  
U.S. Department of Energy  
Westinghouse Electric Corporation

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## **PLENARY AND WORKSHOP TOPICS AND SPEAKERS**

To highlight the conference, keynote presentations were delivered by: Bernice R. Sandler, Ph.D., Senior Scholar in Residence of the National Association for Women in Education; William E. Kirwan, Ph.D., President of the University of Maryland; F. Suzanne Jenniches, General Manager of Information and Automations Systems for Northrop Grumman; and Yvonne Freeman, Ph.D., Provost and Vice President of Clark Atlanta University.

### ***CLASSROOM CLIMATE REVISITED***

Dr. Bernice Sandler, a nationally recognized leader in gender equity research, discussed her latest study, *Classroom Climate Revisited*. This study takes a look at how the classroom environment differentially affects males and females and identifies strategies to provide an environment that promotes success for all students.

## *WOMEN ENGINEERS AND THE NEW FOCUS ON INTERNATIONAL EDUCATION*

Ms. Suzanne Jenniches and Dr. William Kirwan presented the second plenary, *Women Engineers and the New Focus on International Education*. The session addressed the necessity of preparing students for an international workforce from both academic and industry perspectives. William Kirwan talked about how universities are making their engineering classrooms more responsive to the demands of the new workplace by internationalizing their curricula, by expanding opportunities for language study and travel abroad, and by exposing students to a variety of cross-disciplinary and cross-cultural influences. Suzanne Jenniches, with 22 years experience in the electronics industry conducting business worldwide, provided the industry perspective to the discussion of the importance of building international expertise into the professional qualifications of women engineers.

## *AFFIRMATIVE ACTION: PROMISE OR PROGRESS? WHAT LIES AHEAD?*

Dr. Yvonne Freeman addressed the following questions regarding one of the most controversial topics of the year: *Affirmative Action*. What are the facts? Has affirmative action accomplished what it was designed to do? Can and should affirmative action remain intact, with modifications in its implementation alone? Given that some changes are inevitable, how can we make sure that women and men, minorities and non-minorities continue to be treated equal partners in our workplaces?

In addition to the keynote speeches, eighty-three speakers, including workshop leaders and presenters, delivered twenty-eight workshops. The subject of the workshops were:

*Evaluation - Interactive Hands-on Planning*

*Steps to Leadership Success*

*Gender Equity Workshop for Middle and High School Teachers*

*Teaching Professional Survival Skills to Women in Engineering Students*

*Utilizing Resources Effectively: From the Library to the World Wide Web*

*Bridging the Gender Gap in Engineering and Science: The Challenge of Institutional Transformation*

*Situation of Women Academics in the New Lander in Germany*

*Communication and Conflict Resolution Between Colleagues*

*Helping Women Select Career Paths*

*Perspectives of Female Executive Scientists & Engineers - Panel Discussion*

*The Experience of Being a Woman Engineering Student: Perspectives and Coping*

*Navigating Career and Family Paths: Personal Perspectives - Panel Discussion*

*K-12 Programs: Innovative and Collaborative Approaches*

*Facilitated Discussion - An Interactive Discussion of International Programs*

*Practical Advice for Women in Engineering Program Administrators: What to Do When An Allegation of Sexual Harassment Walks in Your Door*

*Curriculum Reform: Working Towards Gender Equity*

*Gender Communications: He Said...She Said...*

*Campus Climate Issues*

*Corporate Strategies for Increasing the Participation of Women: A Panel of Industry Representatives*

*Maximizing Your Resources: Working Effectively With Student Employees*

*Retention Efforts - Programs That Work*

*K-12 Outreach Programs*

*Facilitated Discussion - An Interactive Discussion of Affirmative Action*

*Programs at 2-Year and Community Colleges*

*New Ways of Looking at Engineering Education: TQM*

*Evaluating the Impact of Two Initiatives*

*Curriculum Reform: Innovative Teaching Methods*

*Campus Climate - Perspectives From Coalitions*

## WEPAN AWARDS PRESENTED FOR OUTSTANDING ACCOMPLISHMENTS

DENVER, CO. - WEPAN, Women in Engineering Program Advocates Network recognized outstanding accomplishments of WEPAN members who through their individual effort or programs contributed to WEPAN in the areas of service, achievements in research related to women in engineering and science, or programming for women in engineering and science. The awards were presented at the WEPAN National Conference on June 4, 1996 in Denver, Colorado.

### WEPAN PRESIDENT'S AWARD

The President's Award recognized and honors an individual who has demonstrated a significant contribution to WEPAN. The President's Award is given to an individual whose efforts have significantly advanced the goals of WEPAN in terms of service, fundraising, outreach and collaboration.

The President's award was presented jointly to Dr. Suzanne G.. Brainard, Director, Women in Engineering, at the University of Washington and Dr. Jane Z. Daniels, Director, Women in Engineering Programs, at Purdue University. The citations follow:

*Dr. Suzanne G. Brainard co-founded WEPAN in 1990, held the office of Secretary from 1990-1993 and was elected President of WEPAN for two terms beginning in 1993. Under her leadership, WEPAN has launched onto the next plane, evolving into a nationally recognized and respected organization. Suzanne has been instrumental in raising over tow million dollars in support of WEPAN operations and special initiatives, and has cultivated an effective multi-dimensional organization. The vitality of WEPAN is due in large part to Suzanne's energy, determination, and belief in the mission of the organization.*

*Dr. Jane Z. Daniels is a dedicated advocate of women in pursuit of an engineering degree. Her devotion to this mission propelled her into the role of co-founder and first President of WEPAN in 1990. In this key role, Jane represented this fledgling organization at strategic conferences (NSF, GASAT International, ASEE, and SWE) in order to pave the way for attainment of grants totaling over a half million dollars. These successful efforts formed the strong foundation for what has become a*



*nationally recognized influential catalyst for change. Throughout these beginning years, Jane was always there with a quick wit and ready smile to keep the energy and vision on target for WEPAN.*

#### **WEPAN RESEARCH AWARD**

The Research Award is given to an individual for notable achievement in research related to women in engineering and science.

The Research Award was presented to Dr. Emily M. Wadsworth, Assistant Director, Women in Engineering at Purdue University. The citation follows:

*Dr. Emily M. Wadsworth is recognized for her outstanding contributions to the field of research about Women in Engineering Programs. She has developed, implemented, and evaluated numerous research activities for the Women in Engineering Program at Purdue University and has led the efforts of the WEPAN Action Group Research, Evaluation, and Dissemination (AGRED). Emy has also served as a mentor, role model, and friend to numerous female engineering undergraduate and graduate students involved in her research activities. Dr. Wadsworth's initiative, enthusiasm, and research abilities have earned her the first WEPAN Research Award.*

#### **WEPAN WOMEN IN ENGINEERING PROGRAM (WIE) AWARD**

The Women in Engineering Program Award is given to a program that is judged to have made significant advances as a start-up program within the first year of existence or made significant improvement to an established program; been an important role model for other WIE programs; established a reputation for professional service to WEPAN; made demonstrated improvements in the conditions under which women in engineering operate; given demonstrated professional guidance to students and/or faculty who seek engineering and science as a career; and offered evidence of merit that has advanced the professional objectives of WEPAN.

The Women in Engineering Program Award was presented to the University of Maryland, College Park. Cheryl Morris, Director of the Women in Engineering Program accepted the award. The citation follows:

*Since its first year, the Women in Engineering Program at the University of Maryland at College Park has been instrumental in improving the educational environment for undergraduate and graduate female engineering students. WIE has initiated research and teaching fellowships, a mentoring program, a graduate committee, funding for students to attend professional conferences, a newsletter, an engineering curriculum transformation project, and two pre-college summer programs. Thus, in one year with limited resources, WIE has already made significant strides in developing institutional structures and initiatives that ensure a supportive educational environment for all undergraduate and graduate women in engineering.*

The following section presents the results of an evaluation, which was conducted to obtain feedback on the effectiveness of the conference.

#### CONFERENCE EVALUATION

An overall evaluation was conducted to assess the effectiveness of the conference. A variety of different components were evaluated, including: the quality of plenary sessions, workshops, conference registration, optional evening activities, accommodations, and reception. An evaluation questionnaire was included in the folder of materials that each registered participant received.

The questionnaire included both structured and unstructured questions: seventy-two structured and six open-ended questions. For the structured questions, respondents were given a range of five points from poor to excellent to select. The six open-ended questions attempted to gather names of speakers and topics for the next year's conference. The evaluation also provided an opportunity for participants to submit comments regarding the quality and effectiveness of the conference.

Over 200 individuals from academia and industry participated in this conference. A total of 195 registered at the Conference. Of those, 70 (36%) responded to the evaluation questionnaire. The participants represented 41 states, the District of Columbia, and four countries; and 42% were from the East Region, 34% from the Midwestern Region, and 25% from the West Region. Further, 73% came from colleges or universities, 11% from industry, 5% from professional organizations, 4% from government, and 1% from the press.

## SUMMARY OF EVALUATION RESULTS

The following section will highlight some of the results of the evaluation.

TABLE I: Quality Ratings of Plenary Sessions

Plenary Session	%Poor	%Fair	%Good	%Very Good	%Excellent	# Resp.
<i>Classroom Climate Revisited</i>	0	0	6	21	73	63
<i>An International Workforce</i>	2	8	15	54	21	52
<i>Affirmative Action</i>	0	0	7	33	60	42

One hundred percent of the conference participants felt the *Classroom Climate Revisited* and *Affirmative Action* plenary sessions were good to excellent. The ratings of the other sessions were also highly rated.

TABLE II: Quality Ratings of Special Conference Activities

Activity	%Poor	%Fair	%Good	%Very Good	%Excellent	# Resp.
<i>New Member Reception</i>	0	0	7	15	78	41
<i>Sunday Night Program:</i>						
<i>Dinner Meal</i>	0	3	21	46	30	57
<i>Speaker: Dr. Jane Curry</i>	2	13	33	28	24	54
<i>Monday Night Reception</i>	0	4	9	38	49	45

Seventy-eight of the respondents felt the New Member Reception was excellent. About half (49%) of the respondents felt the Monday Night Reception was excellent and 38% felt it was very good.

TABLE III: Quality Ratings of Conference Site

Conference Site	%Poor	%Fair	%Good	%Very Good	%Excellent	# Resp.
<i>Accommodations</i>	0	0	9	29	62	68
<i>Food</i>	0	0	7	33	60	70

Although 91% of the attendees felt the accommodations of the conference site were very good to excellent, most participants expressed that the location was too far from the city.

TABLE IV: Quality Ratings of Conference Registration

Conference Registration	%Poor	%Fair	%Good	%Very Good	%Excellent	# Resp.
<i>Registration Materials</i>	0	0	6	32	62	69
<i>Organization</i>	0	0	3	26	71	69
<i>Ease of On-Site Registration/ Locating Rooms</i>	0	0	6	29	65	68
<i>Time of Day</i>	0	0	11	30	59	66

Nearly all respondents felt the conference registration process was very good to excellent.

TABLE V: Quality Ratings of Resource Room and Book Sale

Event	%Poor	%Fair	%Good	%Very Good	%Excellent	# Resp.
<i>Resource Room</i>	2	9	23	35	32	57
<i>Book Sale</i>	0	17	28	38	17	53

The Resource Room and Book Sale were popular among participants, although there were several comments about the small range and quantity of books.

TABLE VI: Quality Ratings of Poster Sessions

Poster Session	%Poor	%Fair	%Good	%Very Good	%Excellent	# Resp.
Organization	0	10	28	34	28	50
Presentation/Materials	0	2	31	42	26	51
Length/Time	0	8	33	35	25	49
Relevance	0	2	22	37	39	49
Informative	0	0	22	48	30	50

Most of the respondents felt that the Poster Session was good to excellent. Several suggestions were made regarding having a larger room for the session and displaying the posters on bulletin boards instead of easels.

The ratings of each individual workshop were also tabulated and can be found in Appendix B.

The participants ranked the following three sessions the highest when asked what were the best sessions:

*Communication and Conflict Resolution Between Colleagues*

*Curriculum Reform: Working Towards Gender Equity*

*The Experience of Being a Woman Engineering Student: Perspectives and Coping*

The participants ranked the following three speakers the highest when asked who were the best speakers:

Bernice R. Sandler, Ph.D.  
*Classroom Climate Revisited*

Yvonne Freeman, Ph.D.  
*Affirmative Action: Promise or Progress? What Lies Ahead?*

F. Suzanne Jenniches  
*Women Engineers and the New Focus on International Education*

## AREAS FOR CONFERENCE IMPROVEMENT AND SUGGESTED WORKSHOP TOPICS

The questionnaire also provided an opportunity for the participants to make comments. A summary of the most frequently made suggestions for improving next year's conference follow.

### 1. GENERAL SUGGESTIONS

Make it clear that all can attend the first reception for new members. We need old members to welcome new ones.

Please add relaxation/fun time so that attendees have a chance to venture out at least once. Receptions took up both free evenings.

There were very few copies of the one book that was written by Sandler at the book sale. It seems like for books by keynote speakers, there should be a fair quantity.

I would prefer a location on a public transportation route, so I could visit the locality without car rental costs.

Conference site was too far from town. It was terribly isolating to be so far from the city/downtown area.

The Poster Session room was a bit cramped.

Need real bulletin boards not easels for the poster sessions

I would simply like to include more graduate students, undergraduate students, and community college leaders. The future is in undergraduates' involvement in these event.

### 2. WORKSHOPS

Need to have more discussion and representation of issues which affect the diversity of our students. Many sessions seemed very surface with respect to the real societal issues which must be engaged if change is going to occur.

More in depth information needed in sessions.

The Sunday Night Program, while interesting, was quite long. A suggestion would be not to have a program so lengthy, particularly at that time of day.

Communication and Conflict Resolution Between Colleagues (Session 2A) should have been longer.

In addition, several suggestions were made for workshops to be held at next year's conference, including:

*Survival Skills for Students*

*Why Women Leave Engineering and Where They Go*

*The Role of Professional Societies in Women in Engineering Programs*

*Transformative Education*

*Presentation of Diversity Issues to Students via Corporate Training Programs  
Presentations*

*How to Conduct Diversity and Awareness Seminars*

*Conflict Resolution Workshop*

*Strategies for Facilitating Collaborative Learning with Audience Involvement*

*Admissions and Recruitment Pre-conference Workshop*

*Evaluations of Curriculum Reform Efforts*

## **CONCLUSION**

Coupled with the specific evaluation results summarized above, the overall success of the conference was also demonstrated by the tremendous interest expressed by the membership in the administration of WEPAN. Several individuals volunteered to become involved in planning regional meetings and assisting with the national conference planning for next year.

The WEPAN Board of Directors and the members look forward to continued success in their pursuit of increasing the national participation of women in engineering and supporting sciences.

## *APPENDICES*

- A. Participant Comments - A Synopsis*
- B. Quality Ratings of the Workshops*
- C. WEPAN Mission, Goals, and Priorities*
- D. WEPAN Officers and Board of Directors*
- E. 1996 Conference Evaluation Form*
- F. 1996 Conference Program*



## A. Participant Comments - A Synopsis

### Positive Comments

Excellent management of conference. Applauds to planning committee, especially Dr. Maslanik. E-mail was terrific.

Hyatt Regency was most accommodating regarding transport to a mall for shoppers. Car rental was super!

I was surprised by the action and studies done in academia, especially in the women studies area. The supplies were great, especially the chocolate!

The focus on light healthy meals was excellent!

Excellent Formatted Survey! Best Wepan yet!

This conference was very informative and worthwhile.

Good exposure to other technical people.

Beautifully organized - lots of warmth, sharing, acceptance, not seen at other large conferences.

Hotel staff was incredibly courteous.

Terrific group of people. Enjoyed interaction at sessions.

This was a very worthwhile conference, excellently organized, full of wonderful resources.

Very informative conference; I look forward to participating in next year's.

A great conference! Food was excellent! Sessions were excellent!

Appreciate willingness of this great group to work together.

Food was great and plentiful. Fresh fruit was great.

It was an excellent conference. Very well put together. Excellent meals and receptions. Thanks for all the effort and hard work.

It was a dynamite conference!

Thank you for a wonderful couple days. It was very uplifting and extremely well organized!

Thank you for such a good conference. The location was great, the sessions were excellent, and difficult to choose which to attend. The idea to alternate locations was great too.

I loved the new member reception! As a new member, I felt valued and comfortable enough to introduce myself to others. WEPAN felt like a family.

I had to leave WEPAN early to attend to an emergency situation back at work. But, my overall impression is very positive. I can't think of a single thing I would change. The hotel, despite being so far from Denver downtown (my only complaint) was excellent, with excellent rooms and service. The sessions that I attended were all excellent as well. It is clear that WEPAN is the leader in innovation with respect to women in science and engineering.

## Suggestions

Would have liked to see poster and book sale held earlier for those who can't stay the whole time.

Posters should have been in middle of room to accommodate crowds.

I found it very difficult rating sessions/speakers when in most sessions the quality of the speakers differed. You are lumping 2 and in some cases 3 speakers with one rating.

Make it clear that all can attend the first reception for new members. We need old members to welcome new ones.

Conference Site was too far from town.

Need real bulletin boards not easels for the poster sessions.

Gender Equity for Teachers could be longer and not enough "hands-on."

Only suggestion is that location of Hyatt Regency is a bit remote if you want to do walking explorations.

Regarding the Saturday Evaluation - Interactive Hands-on Planning Workshop: Not focused on evaluation. Too much presentation of results.

WEPAN Planning Committee does a great job but two areas of concern: 1) I felt the location of the Tech Center wasn't made clear in the information. I didn't realize it was so far out of the city; and 2) As a minority (A.A.) I only attended one workshop with a minority presenter. And the minority keynote was after 50% (it seems) of attendees had left.

I was disappointed in the Resource Room this year. Normally there is a lot more material.

Regarding Session 1A (Teaching Professional Survival Skills to Women Engineering Students): The speaker was at a disadvantage, since the suit case with her overheads never showed up, but I was expecting very specific discussion of survival skills and this didn't happen.

Need to have more discussion and representation of issues which affect the diversity of our students. Many sessions seemed very surface with respect to the real societal issues which must be engaged if change is going to occur.

Regarding Plenary Session 3 (Affirmative Action: Promise or Progress? What Lies Ahead?): These issues should have been discussed throughout the conference, not at the end.

Provide guidelines to poster session presenters for uniform formats (or close to it). Action groups don't meet all of our needs; perhaps a new one on "retention."

Need more corporate representatives at high (policy, decision making) levels. Also, can WEPAN attract more press coverage?

Stress to moderators the need to adhere to time allotments. The last speakers in some sessions got short-changed.

As many participants came from a far distance, its a shame they could not (due to distance/location of hotel) see some of the sites of the city. Perhaps time slot set aside with some hired buses or drivers to show people around or more centrally located.

The Conference site was too far out; didn't get to see the city.

We need some break times for sightseeing.

Need more books at the book sale.

Please make the second day's afternoon of conference open with no sessions for either networking or enjoying the area. Compensate program by offering an evening session.

Please add relaxation/fun time so that attendees have a chance to venture out at least once (receptions took up both free evenings).

How about Texas in 1999??

There were very few copies of the one book that was written by Sandler at the book sale. It seems like for books by keynote speakers, there should be a fair quantity.

## B. Quality Ratings of the Workshops

Workshop	%Poor	%Fair	%Good	%Very Good	%Excellent	# Resp.
<i>Evaluation - Interactive Hands-on Planning</i>						
Topic	0	6	33	11	50	18
Speakers	0	6	33	22	39	18
Length	0	0	24	53	24	17
Relevance	0	0	33	11	56	18
Materials	0	11	33	17	39	18
<i>Steps to Leadership Success</i>						
Topic	0	0	18	36	46	11
Speakers	0	0	27	18	55	11
Length	0	0	18	46	36	11
Relevance	0	0	18	46	36	11
Materials	0	0	29	14	57	7
<i>Gender Equity Workshop for Middle and High School Teachers</i>						
Topic	0	10	0	50	40	10
Speakers	0	0	30	50	20	10
Length	0	20	30	30	20	10
Relevance	0	10	20	30	40	10
Materials	0	10	20	30	40	10
<i>Teaching Professional Survival Skills to Women in Engineering Students</i>						
Topic	0	0	16	32	53	19
Speakers	16	26	21	21	16	19
Length	0	12	53	18	18	17
Relevance	6	24	24	29	18	17
Materials	15	31	23	15	15	13
<i>Utilizing Resources Effectively: From the Library to the World Wide Web</i>						
Topic	0	0	6	25	69	16
Speakers	0	0	0	31	69	16
Length	0	6	13	31	50	16
Relevance	0	0	0	25	75	16
Materials	0	0	13	38	50	16
<i>Bridging the Gender Gap in Engineering &amp; Science: The Challenge of Institutional Transformation</i>						
Topic	0	6	6	56	31	16
Speakers	0	13	19	38	31	16
Length	0	7	33	40	20	15
Relevance	0	0	33	40	27	15
Materials	0	25	38	38	0	8

Workshop	%Poor	%Fair	%Good	%Very Good	%Excellent	# Resp.
<i>Situation of Women Academics in the New Lander in Germany</i>						
Topic	0	0	0	100	0	1
Speakers	0	0	0	0	100	1
Length	0	0	100	0	0	1
Relevance	0	0	0	0	100	1
Materials	0	0	0	100	0	1
<i>Communication and Conflict Resolution Between Colleagues</i>						
Topic	0	0	0	21	79	28
Speakers	0	4	0	14	82	28
Length	4	0	21	29	46	28
Relevance	0	4	4	29	64	28
Materials	0	0	11	37	52	27
<i>Helping Women Select Career Paths</i>						
Topic	0	6	31	25	38	16
Speakers	0	13	25	31	31	16
Length	0	6	50	19	25	16
Relevance	6	6	19	44	25	16
Materials	0	18	36	27	18	11
<i>Perspectives of Female Executive Scientists &amp; Engineers - Panel Discussion</i>						
Topic	0	25	13	25	38	8
Speakers	0	0	38	50	13	8
Length	0	0	29	71	0	7
Relevance	0	25	13	50	13	8
Materials	0	17	17	33	33	6
<i>The Experience of Being a Woman Engineering Student: Perspectives and Coping</i>						
Topic	0	0	7	30	63	27
Speakers	0	4	7	33	56	27
Length	0	0	19	26	56	27
Relevance	0	0	7	30	63	27
Materials	0	17	17	21	46	24
<i>Navigating Career and Family Paths: Personal Perspectives - Panel Discussion</i>						
Topic	0	0	0	30	70	10
Speakers	0	0	22	22	56	9
Length	0	0	30	40	30	10
Relevance	0	0	30	10	60	10
Materials	13	0	25	13	50	8

Workshop	%Poor	%Fair	%Good	%Very Good	%Excellent	# Resp.
<i>K-12 Programs: Innovative and Collaborative Approaches</i>						
Topic	0	0	0	64	36	11
Speakers	0	0	18	46	64	14
Length	0	0	27	55	18	11
Relevance	0	0	9	46	46	11
Materials	0	22	11	33	33	9
<i>Facilitated Discussion - An Interactive Discussion of International Programs</i>						
Topic	0	20	0	80	40	7
Speakers	0	0	40	80	20	7
Length	0	0	40	60	0	5
Relevance	0	20	0	60	20	5
Materials	0	0	67	33	0	3
<i>Practical Advice for Women in Engineering Program Administrators: What to Do When An Allegation of Sexual Harassment Walks in Your Door</i>						
Topic	0	0	0	12	82	16
Speakers	0	0	6	12	77	16
Length	0	0	24	12	65	17
Relevance	0	6	0	12	82	17
Materials	0	0	7	20	73	15
<i>Curriculum Reform: Working Towards Gender Equity</i>						
Topic	0	0	5	30	65	20
Speakers	0	0	10	20	70	20
Length	0	0	15	25	60	20
Relevance	0	0	10	30	60	20
Materials	0	8	8	31	54	13
<i>Gender Communications: He Said...She Said...</i>						
Topic	0	6	6	39	50	18
Speakers	0	11	6	28	57	18
Length	0	6	22	39	33	18
Relevance	0	11	6	33	50	18
Materials	0	6	18	35	41	17
<i>Campus Climate Issues</i>						
Topic	0	0	6	59	35	17
Speakers	6	6	47	24	18	17
Length	0	0	36	28	25	16
Relevance	0	0	19	28	44	16
Materials	0	20	30	10	40	10

Workshop	%Poor	%Fair	%Good	%Very Good	%Excellent	# Resp.
<i>Corporate Strategies for Increasing the Participation of Women: A Panel of Industry Representatives</i>						
Topic	0	0	18	46	36	11
Speakers	0	0	18	46	36	11
Length	0	9	27	36	27	11
Relevance	0	9	27	18	46	11
Materials	0	17	33	33	17	6
<i>Maximizing Your Resources: Working Effectively With Student Employees</i>						
Topic	0	0	27	27	46	11
Speakers	0	0	9	64	27	11
Length	0	9	27	36	27	11
Relevance	0	0	27	36	36	11
Materials	0	0	40	30	30	10
<i>Retention Efforts - Programs That Work</i>						
Topic	0	0	14	46	41	22
Speakers	0	0	9	41	50	22
Length	0	0	14	33	52	21
Relevance	0	5	5	50	41	22
Materials	0	10	5	45	40	20
<i>K-12 Outreach Programs</i>						
Topic	0	0	9	36	55	11
Speakers	0	9	0	36	55	11
Length	0	0	18	36	46	11
Relevance	0	0	9	27	64	11
Materials	0	0	18	18	64	11
<i>Facilitated Discussion - An Interactive Discussion of Affirmative Action</i>						
Topic	0	4	9	39	48	23
Speakers	0	9	22	39	30	23
Length	0	5	30	50	15	20
Relevance	0	9	9	32	50	22
Materials	0	10	20	70	0	10
<i>Programs at 2-Year and Community Colleges</i>						
Topic	25	0	25	50	0	4
Speakers	0	0	50	50	0	4
Length	0	0	75	25	0	4
Relevance	25	0	50	25	0	4
Materials	0	0	67	33	0	3

Workshop	%Poor	%Fair	%Good	%Very Good	%Excellent	# Resp.
<i>New Ways of Looking at Engineering Education: TQM</i>						
<i>Topic</i>	0	0	11	44	44	9
<i>Speakers</i>	0	0	11	67	22	9
<i>Length</i>	0	0	22	56	22	9
<i>Relevance</i>	0	0	11	67	22	9
<i>Materials</i>	0	0	29	43	29	7
<i>Evaluating the Impact of Two Initiatives</i>						
<i>Topic</i>	0	0	0	50	50	4
<i>Speakers</i>	0	0	0	25	75	4
<i>Length</i>	0	0	0	50	50	4
<i>Relevance</i>	0	0	0	25	75	4
<i>Materials</i>	0	0	0	67	33	3
<i>Curriculum Reform: Innovative Teaching Methods</i>						
<i>Topic</i>	0	0	14	29	57	7
<i>Speakers</i>	0	0	14	43	43	7
<i>Length</i>	0	0	57	0	43	7
<i>Relevance</i>	0	0	14	57	29	7
<i>Materials</i>	0	0	40	20	40	5
<i>Campus Climate - Perspectives From Coalitions</i>						
<i>Topic</i>	0	0	7	33	60	15
<i>Speakers</i>	0	0	7	13	80	15
<i>Length</i>	0	0	20	40	40	15
<i>Relevance</i>	0	0	13	27	60	15
<i>Materials</i>	0	11	22	33	33	9

The majority of the ratings for the all aspects of the workshops were good to excellent. Many of the comments made by the respondents indicated that some sessions were too long and some were too short.



## **C. WEPAN Mission, Goals, and Priorities**

### **MISSION OF WEPAN**

To effect a positive change in the engineering infrastructure, in which the academic, social, and professional climate becomes equally conducive to females and males pursuing careers in engineering.

To infuse in the engineering infrastructure the importance of a diverse and multicultural workforce.

### **GOALS OF WEPAN**

To increase enrollments and degrees granted to women in engineering.

To provide training and technical assistance to colleges and universities to initiate or expand Women in Engineering Programs at the pre-college, undergraduate, and graduate levels.

To provide technical assistance to departments of physics, chemistry, and mathematics in colleges and universities with or planning to have programs for women in engineering at the pre-college, undergraduate, or graduate levels.

To develop materials and services that help to increase the participation of women in engineering.

To create partnerships with business, industry, and the government that prepare women in engineering to successfully compete in a technologically advanced and global economy.

To maintain a clearinghouse of information on effective programs and interventions targeted at increasing the numbers of women in engineering.

To conduct research and disseminate information on issues related to women in engineering and the sciences.

### **WEPAN PRIORITIES**

U.S. Commitment to Women in Engineering

Collaboration and Communication

Leadership and Professional Development

Entrepreneurial and Self-Sustaining Organization

Celebration of Diversity

## D. WEPAN Officers and Board of Directors

The following is a list of the elected WEPAN Officers and Board of Directors.

### WEPAN OFFICERS

Suzanne G. Brainard, Ph.D., *President*  
*Western Region Executive Director*

Susan S. Metz, *Vice President*  
*Easter Region Executive Director*

Karan L. Watson, Ph.D., *Treasurer*

Patricia Berry Glassner, *Secretary*

### WEPAN BOARD OF DIRECTORS

Marilyn R. Berman, Ph.D.  
*Chair, Awards Committee*  
University of Maryland

George Brewster  
Corning, Inc.

Kathleen W. Buechel  
*Chair, Metrics & Milestones Committee*  
Alcoa Foundation

Carmen B. Cannon, Ed.D.  
*Co-Chair, 1997 Conference Committee*  
Howard University

Jane Z. Daniels, Ph.D., *Past President*  
*Midwestern Region Executive Director*  
*Chair, Nominating Committee*  
*Chair, Speakers Bureau*

Cinda Sue Davis, Ph.D.  
*Chair, Review & Publications Committee*  
University of Michigan

Michelle D. Fish  
Cornell University

Norman L. Fortenberry, Sc.D.  
The GEM Consortium

Barbara B. Lazarus, Ph.D.  
*Chair, International Action Group*  
Carnegie Mellon University

Mary E. S. Loomis, Ph.D.  
Hewlett-Packard Laboratories

Judith W. McDonald  
The Ohio State University

Carol B. Muller, Ph.D.  
Dartmouth College

Lewis E. Shumaker  
DuPont Company

Marcia R. Simpson  
Mobil Corporation

Jill S. Tietjen, P.E.  
*Chair, Membership Committee*  
Stone & Webster Management Consultants

Susan Wood, Ph.D.  
*Co-Chair, Ethics & Standard Practices Committee*  
Westinghouse Savannah River Company

The *ex officio* Board members more than the Action Groups are as follows:

Connie R. Christensen  
*Chair, New Members Committee*  
Milwaukee School of Engineering

Carolyn D. Heising, Ph.D.  
*Chair, Faculty Action Group*  
Iowa State University

Suzanne Laurich-McIntyre, Ph.D.  
*Co-Chair, 1997 & 1998 Conference Committee*  
University of Washington

Silvia G. Middleton, Ph.D.  
*Chair, AGREED Action Group*  
University of North Carolina-Charlotte

Indira Nair, Ph.D.  
*Co-Chair, Ethics & Standard  
Practices Committee*  
Carnegie Mellon University

Lisa J. Oliveira  
*Chair, Admissions Action Group*  
Massachusetts Institute of Technology

# 1996 WEPAN CONFERENCE

## Evaluation

### Personal Data (optional)

Name: \_\_\_\_\_ Telephone: \_\_\_\_\_

Institution/Organization: \_\_\_\_\_ Email: \_\_\_\_\_

**PLEASE COMPLETE THIS SURVEY BEFORE LEAVING THE CONFERENCE AND RETURN IT TO THE RESOURCE ROOM.**

	Poor	Fair	Good	Very Good	Excellent
<b>Quality of Plenary Sessions:</b>					
<i>Classroom Climate Revisited</i> , Bernice R. Sandler, Ph.D. ....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>An International Workforce</i> , William E. Kirwan, Ph.D. and F. Suzanne Jenniches .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Affirmative Action</i> , Yvonne Freeman, Ph.D. ....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Special Conference Activities:</b>					
Saturday, New Member Reception .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sunday Action Group Meeting (title): _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sunday Night Program					
Dinner Meal .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Speaker: Jane Curry, Ph.D. ....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Monday Night Reception .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Conference Site:</b>					
Quality of Accommodations .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Quality of Food .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Conference Registration:</b>					
Registration Materials .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Organization .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ease of On-Site Registration/Locating Rooms .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Time of Day .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Resource Room .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Book Sale .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Poster Sessions:</b>					
Organization .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Presentation/Materials .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Length/Time .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Relevance .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Informative .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
WEPAN Annual Meeting .....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### Saturday Workshop (title) \_\_\_\_\_

	Poor	Fair	Good	Very Good	Excellent
Topics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Speakers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Length	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Relevance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Materials	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### Monday Workshop, Gender Equity for Teachers

	Poor	Fair	Good	Very Good	Excellent
Topics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Speakers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Length	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Relevance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Materials	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**PLEASE RATE THE QUALITY OF EACH INDIVIDUAL SESSION.**

**Sunday, Session 1 (title)** \_\_\_\_\_

	Poor	Fair	Good	Very Good	Excellent
Topics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Speakers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Length	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Relevance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Materials	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Sunday, Session 3 (title)** \_\_\_\_\_

	Poor	Fair	Good	Very Good	Excellent
Topics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Speakers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Length	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Relevance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Materials	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Monday, Session 5 (title)** \_\_\_\_\_

	Poor	Fair	Good	Very Good	Excellent
Topics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Speakers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Length	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Relevance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Materials	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Tuesday, Session 7 (title)** \_\_\_\_\_

	Poor	Fair	Good	Very Good	Excellent
Topics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Speakers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Length	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Relevance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Materials	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Sunday, Session 2 (title)** \_\_\_\_\_

	Poor	Fair	Good	Very Good	Excellent
Topics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Speakers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Length	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Relevance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Materials	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Monday, Session 4 (title)** \_\_\_\_\_

	Poor	Fair	Good	Very Good	Excellent
Topics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Speakers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Length	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Relevance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Materials	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Monday, Session 6 (title)** \_\_\_\_\_

	Poor	Fair	Good	Very Good	Excellent
Topics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Speakers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Length	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Relevance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Materials	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Tuesday, Session 8 (title)** \_\_\_\_\_

	Poor	Fair	Good	Very Good	Excellent
Topics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Speakers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Length	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Relevance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Materials	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**SUGGESTIONS/COMMENTS**

Do you have suggestions for next year's speakers? Please specify name and provide contact information, if available.

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Do you have suggestions for session topics? Please specify topics and potential speakers.

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In your opinion, who were the two best speakers?

In your opinion, what were the two best sessions?

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What were your objectives for attending the WEPAN Conference? Were your objectives met? Why or why not? \_\_\_\_\_

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Do you have any other comments? \_\_\_\_\_

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# Women in Engineering Conference

**Capitalizing  
on Today's  
Challenges**

*June 1-4, 1996*

*Hyatt Regency  
Denver, Colorado*

**WEPAN** Women in Engineering  
Program Advocates Network

# STATE OF COLORADO

EXECUTIVE CHAMBERS  
14 State Capitol  
Denver, Colorado 80203-1792  
Phone (303) 866-2471



Roy Romer  
Governor

June 1, 1996

Women in Engineering Program Advocates Network  
Seventh Annual Women in Engineering Conference  
Hyatt Regency Tech Center  
Denver, Colorado

Greetings

Welcome to colorful Colorado. I am pleased that you have chosen Colorado for your Women in Engineering Program Advocates Network Conference, "Capitalizing on Today's Challenges."

I salute your efforts to bring more women into the engineering profession. For a nation to compete and succeed in a global environment, all of its citizens must have an equal opportunity to make their unique contributions.

We believe you will enjoy the diverse natural beauty and recreation opportunities Colorado has to offer. From the Colorado National Monument in the west, to Mesa Verde in the southwest, to Rocky Mountain National Park in the north and the Sand Dunes National Park in the south, Colorado can provide you many different vacations in one. The natural beauty and abundance of wildlife will amaze and charm you. You will not want to miss the ski areas west of Denver, one of which could still be open in June. Most have summer activities which allow you to enjoy the mountains equally in the summer as in the winter.

We appreciate your selecting Colorado as the location of your conference and hope that it is a success. Enjoy Colorado.

Sincerely,

Roy Romer  
Governor

## WELCOME

Welcome to the Seventh National Women in Engineering Conference sponsored by WEPAN, Women in Engineering Program Advocates Network. On behalf of the WEPAN Conference Committee, we are delighted that you have chosen to attend the 1996 conference. The program offers a wide variety of speakers and topics. We hope you will find the presentations informative and the discussions lively. One of the highlights of the conference continues to be the opportunity to meet your colleagues, which we have made every effort to facilitate.

This year WEPAN has incorporated many of the changes requested by past conference attendees. For example, we have added several professional development workshops. We also added a dinner and fun but relevant entertainment. This year's conference is also different in that we have located in a more suburban setting. As with our programs, evaluation is essential! Please let us know how you like the changes and please continue to provide us with your invaluable feedback.

WEPAN is pleased to provide a forum for individuals to share their successes, programs, expertise, and ideas, and be recognized for their efforts to promote access for women to careers in engineering. We hope you enjoy the conference and look forward to your continued involvement in WEPAN.

Miriam K. Maslanik, Ph.D., P.E.  
WEPAN Conference Chair

## ABOUT WEPAN

WEPAN, Women in Engineering Program Advocates Network, is a national non-profit organization founded in 1990. WEPAN's mission is to effect a positive change in the engineering infrastructure in which the academic, social, and professional climate becomes equally conducive to females and males pursuing careers in engineering and to infuse in the engineering infrastructure the importance of a diverse and multicultural workforce. In 1995 WEPAN had a membership of more than 500 individuals, including 258 corporate or institutional members.

## 1996 WEPAN CONFERENCE SPONSORS

Alcoa Foundation  
AT&T Foundation  
Corning Incorporated  
Dow Chemical  
DuPont Company, Inc.  
Hewlett-Packard  
IBM Corporation  
Microsoft Corporation  
Mobil Corporation  
NASA  
U.S. Department of Energy  
Westinghouse Electric Corporation

## CONFERENCE PROCEEDINGS

Each registrant at the Women in Engineering Conference will be mailed a copy of the conference proceedings, included in the registration fee. Additional copies may be purchased by contacting WEPAN Member Services, Purdue University, 1284 CIVL Building, Room G293, West Lafayette, IN 47907-1284, Telephone: (317) 494-5387, Fax: (317) 494-9152, Email: [wiep@ecn.purdue.edu](mailto:wiep@ecn.purdue.edu).

## WEPAN BUSINESS

The WEPAN Business meeting will be held on Tuesday, June 4, at 1:50 p.m. The agenda will include: election results for the Board of Directors; reports from officers on the current WEPAN activities and accomplishments; reports from the Admissions, Faculty, Research, and International Action Group Chairs. The new WEPAN Awards will be presented and drawings for door prizes will be held. Action Group meetings will be conducted on Sunday at 4:30 p.m.

## DOOR PRIZES

The following door prizes will be awarded to conference participants during the 1996 WEPAN Conference:

- 2 HP48G calculators from Hewlett Packard
- 1 Multi-meter from Hewlett Packard
- 1 desk set from IBM
- Software from Microsoft
- T-Shirts, hats, and mouse pads from CH2M Hill
- Mementos from the University of Colorado at Boulder Bookstore

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## WEPAN IS PLEASED TO ANNOUNCE

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**The 1997 WEPAN  
Women in Engineering Conference  
will be held jointly with the 1997 NAMEPA  
Conference in the Washington, DC area.  
Dates and locations will be announced  
*Save the Dates!***

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## SATURDAY, JUNE 1

8:00 a.m. - 3:00 p.m.  
Wind River AB

WEPAN Board Meeting

2:00-5:00 p.m.  
Mesa Verde Foyer

Registration

3:00 - 6:00 p.m.  
Mesa AB

Workshop 1 (S40)  
Evaluation - Interactive Hands-on  
Planning  
AGRED (Action Group on Research,  
Evaluation, and Dissemination)

Moderator:

**Dorie McCubbrey, Ph.D.**  
Director, Women in Engineering Program  
University of Akron

Speakers:

**Emily M. Wadsworth, Ph.D.**  
Assistant Director, Women in Engineering  
Purdue University

**Lisa M. Frehill, Ph.D.**  
Assistant Professor  
New Mexico State University

**Irene F. Goodman, Ph.D.**  
President  
Goodman Research Group, Inc.

**Colleen F. Manning**  
Research Associate  
Goodman Research Group, Inc.

This is an interactive workshop that will ask participants about their program plans, and then address their evaluation needs, challenges, and goals. Presenters will supply background information on types of evaluation, discuss procedures to follow, and share how results from evaluation relate to the recruitment and retention of students. Small groups will be involved with exercises, case studies, and consultations regarding what works and doesn't work when evaluating.

4:30 - 6:00 p.m.  
Highlands

Workshop 2 (S20)  
Steps to Leadership Success

Speaker:

**Jill Baylor, P.E.**  
Assistant Vice President  
Stone & Webster Management Consultants

Each one of us has the potential to be a leader. However, being an effective leader takes hard work and commitment. Seven steps to leadership success are identified and discussed including: Just do it, believe in yourself and your ideas, communicate, value each person and her ideas, have high expectations, love and serve others, and say "Thank you." Examples for each step to leadership success are provided.

6:30-7:30 p.m.  
Wind River AB

New Member Reception

This reception is for new WEPAN members and first-time conference attendees. Come meet the WEPAN board and learn how to get the most out of this conference.



## SUNDAY, JUNE 2

8:00 a.m. - 5:00 p.m.  
Grand Mesa Foyer

### Registration

9:00 - 9:30 a.m.  
Grand Mesa ABC

### Conference Welcome and Introduction

**Miriam K. Maslanik, Ph.D., P.E.**  
1996 Conference Chair  
Associate Director  
Women in Engineering Program  
University of Colorado at Boulder

**Suzie Laurich-McIntyre, Ph.D.**  
1996 Conference Co-Chair  
Associate Director  
Women in Engineering Initiative  
University of Washington

9:30 - 10:30 a.m.  
Grand Mesa ABC

### PLENARY 1

#### Classroom Climate Revisited

Speaker:

**Bernice R. Sandler, Ph.D.**  
Senior Scholar in Residence  
National Association for Women in Education

This keynote address will describe how male and female students sitting side by side often have very different experiences in the same classroom, especially when faculty members, both male and female, often treat male and female students differently in the classroom in ways that are so subtle that often no one even notices. For example, women are more likely to be interrupted, not called upon as often, and receive less praise, less criticism, less help and less attention from professors. Moreover, the competitive nature of the traditional classroom may have a different impact on women, e.g., many men may relish a good argument while many women may feel reluctant to enter into that type of discussion. Male students may also create a hostile environment for their female classmates, an environment that may be tolerated by faculty members. Add to this the lack of women faculty and the absence of women from the curriculum, and it becomes clear that the classroom is often chilly for women students, dampening their classroom participation, their ambitions, and their self-esteem.

10:30 - 10:45 a.m.

### Break

10:45 - 11:45 a.m.

### SESSION 1

Mesa Verde ABC

A. Workshop  
Teaching Professional Survival Skills to  
Women in Engineering Students

Speaker:

**Carolyn D. Heising, Ph.D.**  
Professor of Industrial and  
Nuclear Engineering  
Iowa State University

A series of individual seminars have been established at Iowa State University (ISU) under the auspices of the ISU Women in Science and Engineering (WISE) program. Survival skills include: gaining access to the academy, mentoring—who needs it and why, job hunting and negotiating skills, and starting a new job—establishing yourself. These topics will be covered in the WEPAN workshop. Professional survival skills, such as refining interpersonal and communication skills to navigate through the system, networking abilities, and establishing a support network are emphasized.

Highlands

B. Utilizing Resources Effectively: From the Library to the World Wide Web

Moderator:

**Karan L. Watson, Ph.D.**  
Assistant Dean of Engineering  
Texas A&M University

Speaker:

*Sorting Through the Chaff: Locating and Using Research Sources for Women in Engineering*  
**Tanya L. Zanish**  
Curator, Archives of Women in Sci. & Engr.  
Iowa State University

This paper will discuss the myriad sources for locating information on women in engineering. The author, a trained archivist, will detail the various federal, state, regional, and academic organizations where researchers can locate statistics, articles concerning the gender gap, and current information about practicing engineers. She will also discuss techniques in locating secondary sources, historical repositories and archival collections, utilizing printed guides, computer databases, and the World Wide Web.

Speaker:

*The World Wide Web and WEPAN*  
**Lisa J. Oliveira**  
Assistant Director of Admissions  
Massachusetts Institute of Technology

After a brief introduction and overview of the WWW, we will present the WEPAN World Wide Web pages, and open a discussion of other uses and suggestions. Also addressed will be educational uses of the Web, particularly for publicizing programs and recruiting students. Highlights will include secondary school use and access, summer programs, and university programs. We will cover information gathered at MIT regarding volume and gender differences in Web use, and what Web users are doing to make the Web user-friendly for all. We will provide suggestions for creation of Web pages (as well as a look at the good, the bad and the ugly), and talk about the positives and negatives of this exploding medium.

10:45 - 11:15 a.m.  
Wind Star AB

C. Bridging the Gender Gap in Engineering and Science: The Challenge of Institutional Transformation

Speaker:

**Barbara B. Lazarus, Ph.D.**  
Associate Provost of Academic Projects  
Carnegie Mellon University

For the past several decades, intervention programs for women and for minorities in engineering and science have mushroomed. Most programs have focused primarily on helping individuals develop the skills necessary to survive and thrive in the academy. Now, after decades of experience, many groups are calling for an institutional change. Though many barriers to creating a fully diverse workforce appear early in informal and formal education—higher education must remain a focus of this change. For higher education remains the true gatekeeper to careers in engineering and science: higher education defines the criteria for entry and the required credentials to be a scientist or an engineer; higher education teaches the teachers who work in the kindergarten through twelfth grade; higher education impacts attitudes of many of yesterday's, today's, and tomorrow's parents. This session will share specific strategies on institutional transformation and provide a forum for participants to share additional strategies to move this critical agenda forward.

1:15 - 11:45 a.m.  
Wind Star AB

D. Situation of Women Academics in the  
New Länder in Germany

Speaker: **Ingrid Doberenz, Ph.D.**  
European Patent Attorney  
Mittweida Univ. of Tech. and Economics (FH)

This short report will give an overview about the situation of the women academics and engineers in the new länder. Women in the new länder were not prepared in their living concept for unemployment. Most of these women were very successful in their jobs and it was very important for them to be equivalent to the male workmate. Work was the basis for the self-confidence of the East German women.

12:00 noon - 1:15 p.m. **LUNCH**  
Atrium

1:30 - 2:45 p.m. **SESSION 2**

Highlands A. Workshop  
Communication and Conflict Resolution in  
the Workplace: An Awareness Workshop

Speaker: **Nancy E. Algert**  
Licensed Professional Counselor  
Graduate Assistant  
Texas A&M University - College Station

The academic and corporate climates are challenging for all people, but women have an additional stress balancing what their profession demands from them and also what burdens of culture and society have been placed upon them. Understanding one's style of managing conflict and being aware of the conflict styles of colleagues a person has to work with, facilitates positive opportunities for productive dialogue, debate, and communication. This presentation will specifically present: (1) defining conflict and how we traditionally manage it, (2) our own personal styles of handling conflict, (3) understanding how professional colleagues handle conflict, (4) managing conflict and why this is important, (5) how communication improves when conflict is addressed and processed productively, and (6) how through improved communication an individual can work more productively with a group and thus increase the success of the group.

Wind Star AB B. Helping Women Select Career Paths

Moderator: **Irene R. Mikawoz, P. Eng.**  
Director of Student Affairs  
University of Manitoba

Speaker: **Factors Influencing the Selection of  
Universities by Minority Women in Engineering**  
**Sangeetha Purushothaman, Ph.D.**  
Research Associate  
National Action Council for Minorities  
in Engineering (NACME)

This paper analyses the factors affecting choices made by minority women in selecting an engineering institution. Examining the distribution of minority women among the nation's 336 engineering schools, it explores issues of access to higher education in engineering as a whole and by categories of institution, such as public and private schools, and minority serving institutions. Further, it examines the relationship between demographics, cost and selectivity and the presence of minority women in the engineering freshman class and compares these with similar relationships for minority men and non-minority women. The contention is that minority women are making choices about engineering education in ways that closely parallel the choices made by minority men, and that are distinct from the decisions made by the non-minority male and female population.

*Factors that Affect a College Student's  
Academic and Career Path in  
Science/Engineering-Related Fields*  
**Mary J. DeLong, Ph.D.**  
Director of Laboratories  
Emory University School of Public Health  
Center for Excellence in Education

Speaker:

The Center for Excellence in Education since 1984 has sponsored a Summer Research Science Institute for the top 1% of rising high school seniors gifted in mathematics and science. A 1995 longitudinal study of this cohort group showed a three-fold higher attrition of women than men from science-related careers beginning after the sophomore year of university. Combining data from cognitive interviews, completed questionnaires, and testimonial letters, reasons for the attrition of these females from science-related careers are suggested. Comparing the responses of males and females adds further to our understanding of the problem and guides the design of recommended interventions for prevention of this talent loss. *Study funded by Department of Energy.*

Speaker: **Guiding Attitudes in Career Choice: A Girls'  
Summer School**  
**Lynette Brodie**  
Engineering and Surveying  
University of Southern Queensland, Australia

Overview of the 7th annual Girls in Math & Science Summer School including aims of the school, participant selection criteria, activities offered and success rates. Are we achieving our aims of encouraging girls into Science Technology and Engineering?

Mesa Verde ABC C. Perspectives of Female Executive Scientists &  
Engineers - Panel Discussion

Moderator: **Antionette Joseph**  
Director, Office of Laboratory Policy &  
Infrastructure Management  
Office of Energy Research  
US Department of Energy

Recorder: **Michele D. Fish**  
Director, Women's Programs in Engineering  
Cornell University

Speakers: **Beverly K. Hartline, Ph.D.**  
Associate Director and Project Manager  
Continuous Electron Beam Accelerator Facility

**Linda C. Cain, Ph.D.**  
Director, Office of Science Education  
Oak Ridge National Laboratory

**Cherri J. Langenfeld**  
Manager, Chicago Operation Office  
US Department of Energy

Executive level scientists and engineers from the Department of Energy will discuss the Department's efforts to increase the numbers of females in management level positions and will also tell us a little about their own professional experiences.

2:45 - 3:00 p.m. **Break**

3:00 - 4:15 p.m.

SESSION 3

Highlands

- A. The Experience of Being a Woman  
Engineering Student: Perspectives and Coping

Moderator:

**Carmen B. Cannon, Ph.D.**  
Assistant Dean for Student Services  
School of Engineering  
Howard University

*Finding Their Way: Strategies of Young  
Women Pursuing Degrees in Engineering  
and Science*

Speaker:

**Linda Carlin**  
Doctoral Candidate, Women in Engineering  
University of Washington

Despite evidence of a consistent loss of academic self-confidence during their freshman year, many young women persist in engineering and science programs to complete their bachelor's degree. This study combines longitudinal data with the women's own observations to describe their changes in self-perception and reliance on alternative support resources as they progress through their degree programs.

*Ironic Educational Challenges to Efforts to  
Retain Entering Females in Engineering*

Speaker:

**C. Jan Carpenter, Ph.D.**  
Adjunct Assistant Professor, Psychology Dept.  
The Pennsylvania State University

One of the ironic educational challenges facing educators who seek to retain first year females in science or engineering, is that female students most likely to benefit from preparation about societal challenges, often think they are immune to these challenges. Thus topics discussed by feminists or women's studies faculty such as chilly climate, societal barriers, or violence against women have little relevance or application to their education as future female engineers. These seemingly ironic educational challenges are related to the conceptual framework built around S. Rosser's (1995) phases for teachers of science. Entering female patterns that confused or side-tracked educational efforts are viewed as manifestation of the particular parallel student process, (to Rosser's phases), as students become self-empowered as females in science and engineering. The application of this conceptual framework is illustrated with anecdotal examples provided by freshman female participants from 1993 to 1995.

*Creating Engineers: Processes that  
Exclude Women*

Speaker:

**Karen L. Tonso**  
Doctoral Candidate, School of Education  
University of Colorado at Boulder

I focus on selected interview responses of female and male student engineers when they were asked "what does it mean to be a man (or woman) student on this engineering campus" and its follow-up "how would it be different if you were a woman (or man)." Women at first- and fourth-year levels denied any differences. However, the men's responses changed markedly between first- and fourth-year students. I was struck by the way female students arrived with and maintained a sophisticated illusion of equality, while the men admitted their privilege early in their college careers and developed the ability to articulate an equality myth by the time they were seniors. This research raises difficult questions about the cultural construction of bias and the ultimate exclusion, or alienation, of some women from engineering. My research suggests that attending to changes in women alone will not provide the improvements we seek and that changes in engineering culture itself are required before more women can thrive in engineering.

Mesa Verde ABC

Moderator:

- B. Navigating Career and Family Paths: Personal  
Perspectives - Panel Discussion

**Susan Staffin Metz**  
Director, Office of Women's Programs  
Stevens Institute of Technology

Recorder:

**Connie R. Christensen**  
Assistant Professor, General Studies  
Milwaukee School of Engineering

Speakers:

**Carol McConica, Ph.D.**  
Professor, Chemical & Biological Resources  
Colorado State University

**JoAnn Silverstein, Ph.D.**  
Associate Professor, Civil, Environmental  
and Architectural Engineering  
University of Colorado at Boulder

**Carol B. Muller, Ph.D.**  
Associate Dean for Administration  
Dartmouth College, Thayer School of Engr.

*Balancing work and family* is a simple phrase that embraces a complex set of circumstances. Current research related to family issues for women in engineering and science will be presented. Panelists engaged in a variety of interesting work and family situations will discuss the issues, compromises and strategies that emerge as they develop their careers and care for their families.

Wind Star AB

Moderator:

- C. K-12 Programs: Innovative and Collaborative  
Approaches

**Robyn E. Sandekian**  
Program Coordinator  
University of Colorado at Boulder

Speaker:

*Partnering a Path for Women in Engineering*  
**Kathy Weismehl Herbener**  
Manufacturing Development Engineer  
Hewlett-Packard

A partnership between Hewlett-Packard and Northern Colorado school districts was formed to promote systemic change in math and science teaching methods. Hewlett-Packard donates the time of a woman engineer one day a week to train and mentor K-12 teachers in encouraging young women in math, science, and technology. Data from the partnership will be shared.

*Inquiring Into Engineering: A Summer  
Workshop for High School Teachers*

Speaker:

**Jean Cathcart**  
Systems Engineer  
Texas Instruments

"Inquiring Into Engineering" was a summer workshop to acquaint high school math and science teachers with the basic concepts of engineering. The workshop also provided an opportunity for the teachers to develop "hands-on" activities to take back to their classrooms to open discussions about math, science and engineering. Two follow-on activities were required of each teacher—an in-class use of the "hands-on" activity and a teacher workshop where they shared their knowledge with other teachers.

**PROJECT 1999: A Partnership in Association with Public Schools, Industry, and a University to Target the Recruitment of Anglo and Minority Girls Into Engineering**  
**Nancy Bottone Hellman, Ph.D.**  
 Assistant Dean of Engineering  
 University of Massachusetts

**MONDAY, JUNE 3**

Speaker:

7:45 a.m. - 5:00 p.m.  
 Grand Mesa Foyer

**Registration**

7:45 - 8:45 a.m.  
 Atrium

**Continental Breakfast**

9:00 - 10:15 a.m.  
 Grand Mesa ABC

**PLENARY 2**  
**Women Engineers and the New Focus on International Education**

Speakers:

**William E. Kirwan, Ph.D.**  
 President  
 University of Maryland

**F. Suzanne Jenniches**  
 General Manager  
 Information and Automations Systems  
 Northrop Grumman

3:30 - 5:30 p.m.

**WEPAN Action Group Meetings**

All WEPAN conference participants are encouraged to attend an Action Group Meeting of their choice.

Highlands

**A. College Admissions**  
 Lisa Oliveria  
 Chair, WEPAN Admissions Action Group

Wind Star AB

**B. Faculty Issues**  
 Mary Anderson-Rowland, Ph.D.  
 Chair, WEPAN Faculty Action Group

Mesa Verde ABC

**C. International**  
 Barbara B. Lazarus, Ph.D.  
 Chair, WEPAN International Action Group

Wind River AB

**D. Research, Evaluation, & Dissemination**  
 Emily M. Wadsworth, Ph.D.  
 Chair, WEPAN Action Group on Research, Evaluation, & Dissemination (AGRED)

6:00 - 7:15 p.m.  
 Grand Mesa ABC

**DINNER**

7:15 - 8:30 p.m.  
 Grand Mesa ABC

**"Miz Wizard's Science Secrets"**  
**Jane Curry, Ph.D.**

Join Barbara Knight, aka Miz Wizard, as she prepares for and tapes the premiere show of Miz Wizard's Science Secrets for public access cable channel 82. With a sense of history and humor, she talks about theories of sex difference, about women's contributions to science, engineering invention, and math, about revolutionary research, about obstacles faced and overcome by women whose passion is discovery. Meet women Nobel Prize winners and girl inventors. Miz Wizard even conducts demonstrations of physical and chemical principles. Most of the time, they don't explode!

If America is to continue leading the world in engineering and technology, we must prepare our engineers to produce and compete in a global context. This plenary will address the importance of international expertise for women engineers from both a higher education and an industry perspective. William Kirwan will talk about how universities are making their engineering classrooms more responsive to the demands of the new workplace by internationalizing their curricula, by expanding opportunities for language study and travel abroad, and by exposing students to a variety of cross-disciplinary and cross-cultural influences. Suzanne Jenniches, with 22 years experience in the electronics industry conducting business worldwide, will provide the industry perspective to this discussion of the importance of building international expertise into the professional qualifications of women engineers.

10:15 - 10:30 a.m.

**Break**

10:30 - 11:30 a.m.

**SESSION 4**

Wind River AB

**A. Facilitated Discussion: An Interactive Discussion of International Programs**

Moderator:

**Marilyn R. Berman, Ph.D.**  
 Associate Dean, College of Engineering  
 University of Maryland

Recorder:

**Barbara B. Lazarus, Ph.D.**  
 Associate Provost & Adjunct Assoc. Prof.  
 Carnegie Mellon University

Speakers:

**Lester A. Gerhardt, Ph.D.**  
 Associate Dean and Professor, Engineering  
 Rensselaer Polytechnic Institute

**Pamela Kurstedt, Ph.D.**  
 Assistant Dean and Director of Northern  
 Virginia Center, College of Engineering  
 Virginia Polytechnic Institute & State University

**Thomas Chapman, Ph.D.**  
 Professor of Chemical Engineering and  
 Director, International Engineering Programs  
 University of Wisconsin at Madison

This facilitated panel discussion will focus on three very successful examples of international engineering education. The American European Engineering Exchange Program (AE3), which has evolved into the Global Education Engineering Exchange Program (GEEE), will be reviewed from the standpoint of its historical development, purpose and current status. The programs at Virginia Polytechnic Institute and the University of Wisconsin-Madison will be discussed. In addition, we will review international programs developed in the EAGLE Consortium, which has developed international engineering programs in Asia, and the SUCCEED Engineering Coalition.

Mesa Verde ABC

- B. Workshop: Practical Advice for Women in Engineering Program Administrators: What to Do When an Allegation of Sexual Harassment Walks in Your Door

**Miriam K. Maslanik, Ph.D., P.E.**  
Associate Director  
Women in Engineering Program  
University of Colorado at Boulder

This workshop is designed to help Women in Engineering Program administrators, counselors, and staff deal with students' allegations of sexual harassment. A very brief overview of sexual harassment will be presented. We will discuss the "Do's and Don'ts" for dealing with various levels of harassment. You will learn what to say and what NOT to say. Learn to protect yourself and your program by maintaining neutrality, while being an advocate for your students. A practical guide on sexual harassment will be distributed. Come prepared with questions and scenarios to discuss.

Wind Star AB

- C. Curriculum Reform: Working Towards Gender Equity

Moderator:

**Judith W. McDonald**  
Director, Women in Engineering  
The Ohio State University

*Working to Achieve a More Gender Neutral Engineering Curriculum*

Speaker:

**Patricia Laughlin, Ph.D.**  
Associate Dean, College of Engineering  
Carnegie Mellon University

Much has been written about the classroom interactions between female students and their academic experience. In 1990, the Carnegie Mellon University, College of Engineering implemented a curriculum that addresses factors we have outlined as being important to the success of female engineering students. Carnegie Mellon University's restructured curriculum exposes first year students to substantial engineering, departmental curriculums that focus on teaching engineering and flexibility to pursue other interests. A report of the assessment of the impact of those changes will be presented.

Speaker:

*Humanization of Engineering Curriculum*  
**Patricia F. Mead, Ph.D.**  
Assistant Professor, Mechanical Engineering  
University of Maryland

Several strategies, as agreed upon by a panel of engineering and psychology faculty, and a group of women undergraduate Fellows, for pursuing increased participation of engineering students have been identified. These strategies have been implemented in a select group of 6 engineering classes and an evaluation of the initial impact, as well as the potential long-range influence of these pedagogical modifications will be presented.

11:45 a.m. - 1:00 p.m.  
Grand Mesa DE

LUNCH

1:15 - 2:30 p.m.

SESSION 5

Mesa Verde ABC

- A. Workshop:  
Gender Communications:  
He Said...She Said...

Speakers:

**Jerri Gail McKinney**  
Regional Staffing Specialist  
Hewlett-Packard

**Gary McCarney**  
Information Systems Manager  
Hewlett-Packard

Women and men sometimes, and generally do, communicate differently. Although neither communication style is better, sometimes the results can be strained relationships, stress, lack of trust, poor job performance, and in some cases even lawsuits. This workshop will explore six gender communication style tendencies. The information provided will help you better understand your communication tendencies so you can acknowledge gender differences. You will leave this workshop with a better understanding of others by identifying these differences. You then will be on your way to adapting your communication style to be better understood.

Wind River AB

- B. Campus Climate Issues

Moderator:

**Norman L. Fortenberry, Ph.D.**  
Executive Director  
The GEM Consortium

*A Study of the Campus Climate for Diversity: The Impact of Campus Climate on Engineering Women Students*

Speaker:

**Mary Ann Evans, Ph.D.**  
Assistant to Provost & Director, WISE Prog.  
Iowa State University

The results of a comprehensive student campus climate survey conducted at Iowa State University will be discussed. The study revealed many differences between female and male engineering students as well as differences between female engineering students and all female students. Issues that were identified as problem areas for engineering female students will be highlighted.

Speaker:

*Chilly Climate Issues in Engineering*  
**Susan Cavin, Ph.D.**  
PI/PPD, P.O.W.E.R. Grant  
New Jersey Institute of Technology

The P.O.W.E.R. data summarizes: 624 faculty and 1314 student questionnaires on classroom and campus climate issues at five colleges in New Jersey: N.J.I.T. and 4 community colleges looking at cross-cultural gender issues. We found more hate speech on suburban campuses than urban campuses in New Jersey. Sexist and racist jokes are part of campus culture, unfortunately.

*Women in Physics: Measuring a Chilly Climate*  
**Speaker:** Jean M. Curtin  
Research Associate  
American Institute of Physics

Women are underrepresented in the field of physics. A program was developed to assess the university climate for female physics students. The program includes site visits of physics departments, as well as surveys distributed to physics students. Survey findings include: fewer females than male graduate students rated the physics department as encouraging and friendly, females reported interactions with advisors, faculty and other students less positively than males, and more women than men chose the department climate as a reason for feeling discouraged.

Wind Star AB C. Corporate Strategies for Increasing the Participation of Women: A Panel of Industry Representatives

**Moderator:** Suzanne R. Nagel, Ph.D.  
Director, Manufacturing Process Research & Development  
AT&T Bell Laboratories

**Recorder:** Karin L. Mack  
Director, Center for Women in Engineering  
University of California, Davis

**Speakers:** Debra Fowler  
Workforce Planning Manager  
The Dow Chemical Company

George Brewster  
Manager, Recruiting & Temp. Employment  
Corning Incorporated

To Be Announced  
Mobil Corporation

Presentations by Dow, Corning and Mobil will focus on the strategies each company has implemented to insure a fully diverse and cultural workforce. The presenters will discuss recruitment and retention strategies and possible funding sources for women in engineering programs.

2:30 - 2:40 p.m. Break

2:40 - 3:55 p.m. SESSION 6

Mesa Verde ABC A. Workshop  
Maximizing Your Resources: Working Effectively with Student Employees

**Speaker:** Kathleen Bott  
Associate Director, Women's Programs  
Stevens Institute of Technology

With proper training and supervision, student employees can become an important part of your program. Furthermore, students who work on campus are better retained than those who do not. The Office of Women's Programs at Stevens Institute of Technology has been very successful in retaining our student staff members and helping them become valuable contributors to our department as well as enhancing their professional development. Student employees participate in an interview process, an employee orientation and continued evaluation throughout the course of their employment. Special incentives are given to motivate and reward students for their contributions. This presentation will examine the benefits and issues of student employment for

your department and your students. There will be a detailed discussion of Stevens' student employee training program and how it can be implemented on your campus. In addition, we will discuss the type of work and projects that are best suited for students. All participants will be provided with a student training manual.

Wind Star AB

B. Retention Efforts - Programs that Work

**Moderator:** Jane Z. Daniels, Ph.D.  
Director, Women in Engineering Programs  
Purdue University

**Fact Finding: What Are the Needs and What Is Working?**  
**Speaker:** Marsha LoFaro  
Research Associate for the Committee on Women in Math, Science, & Engineering  
Washington State University

A brief description of programs and services promoting the success of women in math, science and engineering at Washington State University will be given. Assessment of the programs in terms of student success and retention and research identifying the problems and needs of the students we are trying to help will be discussed in more detail.

*The Women in Science and Engineering Residence Program: A Model of Living-Learning Program at the University of Michigan*  
**Speaker:** Cinda-Sue Davis, Ph.D.  
Director, Women in Science & Engineering  
University of Michigan

The University of Michigan Women in Science and Engineering Residence Program is designed to improve retention of women students in SEM (Science, Engineering, and Math) fields. It provides a supportive contiguous living arrangement, with programmatic support efforts including mentoring programs, undergraduate research opportunities, study groups, and sections of freshman classes. This presentation will discuss the collaborative development and implementation of the WISE-RP, including evaluation strategies and preliminary results.

*Involving Students Through Building Community: Challenges for Women in Engineering Programs*  
**Speaker:** Jennifer L. Vest  
Evaluator/Research Asst., Women in Engr.  
University of Maryland at College Park

The framework of "community" is perhaps one of the best ways to involve female engineering students in campus life, enhance their educational experiences within the engineering curriculum, and increase their likelihood of staying in engineering. Since building and maintaining a sense of community among female engineering students is a major challenge facing Women in Engineering Programs today, this presentation will first explore student development theories and elements of community in higher education in general. This theoretical foundation will be followed by a comprehensive literature review exploring strategic initiatives taken by Women in Engineering Programs throughout the country to successfully establish and maintain a sense of community among female undergraduate and graduate engineering students. Finally, this presentation will provide a summary of programs, strategies, and interventions that can be utilized by Women in Engineering Programs.

Moderator: -

**Lisa J. Oliveira**  
Assistant Director of Admissions  
Massachusetts Institute of Technology

*The GOES Project: A Successful Outreach Program that Introduces Middle School Girls to Engineering*

Speaker:

**Margaret A. Wheatley, Ph.D.**  
Associate Professor, Chemical Engineering  
Drexel University

The Drexel University Women in Engineering (WIE) Program is sensitive to the reality that many young girls do not choose engineering as a career path. Drexel WIE initiated GOES (Girls' Opportunities in Engineering and Science), an outreach effort which seeks to remedy detrimental effects of women's under-representation in engineering by creating an engineering workshop that literally GOES to middle and junior high schools close to Drexel University. This paper will describe a typical GOES visit, from the logistics and examples of the handouts and discussions to videos of the girls engaged in the hands-on laboratories which we have developed.

*Combining Mentoring and Service Learning - A New Approach*

Speaker:

**Jennifer Ocif**  
Graduate Assistant, Women in Science and Engineering Program  
University of Iowa

At the University of Iowa, engineering, science, and mathematics students are taking their learning beyond the classroom and teaching their disciplines with new techniques to young children in the local community through *Service Learning Projects*. Service Learning Projects are outreach activities with a focus on producing curriculum packets that can be used long after the students have returned to their university. This presentation will introduce WEPAN conference participants to: 1) the dual concept of bringing service learning and mentoring together, 2) the objectives of Service Learning Projects and whom they benefit, and 3) the improvements in the recruitment and retention of women in engineering, science, and mathematics fields, both at the pre-college and college levels.

*The University of Manitoba Access Program for Women in Science and Engineering (Access W.I.S.E.)*

Speaker:

**Irene R. Mikawoz, P. Eng.**  
Director of Student Affairs  
University of Manitoba

The University of Manitoba's Access Program for Women in Science and Engineering (Access WISE) was established in May of 1990 in order to increase the number of women in engineering and the physical sciences (physics, chemistry and geology). It is unique in Canada both in terms of its approach to this mandate and its longevity. Science and engineering are fields that can be intimidating to girls and women not only because they are traditionally "male dominated" but also as a result of the lack of information (or indeed overabundance of misinformation) available on these fields to society at large. To address these issues and accomplish the mandate of the program Access (WISE) a "peer counseling" approach to information exchange between the university and the community.

3:55 - 4:00 p.m.

Break

4:00 - 4:45 p.m.  
Chasm Creek AB

**POSTER SESSION A**  
(Refer to listing in back of program.)

4:45 - 5:30 p.m.  
Chasm Creek AB

**POSTER SESSION B**  
(Refer to listing in back of program.)

3:45 - 6:00 p.m.  
Chasm Creek Foyer

**Book Sale by Tattered Cover Bookstore**

5:30 - 6:30 p.m.  
Atrium

**Reception**

7:00 - 9:00 p.m.  
Highlands

**Gender Equity Workshop for Middle and High School Teachers**

Speaker:

*How Can Teachers Access the Gender Equity Resources of WEPAN?*

**Betty P. Preece**  
Physics Teaching Resource Agent  
American Association of Physics Teachers

This hands-on "in-service" workshop will train local teachers on techniques for promoting gender equity in math and science using graphing calculators. There will also be a panel of WEPAN members talking about WEPAN resources, and a networking reception following the workshop. WEPAN members will participate in this space-limited event by prior arrangement. Additional WEPAN members may participate and/or observe on a space available basis by prior on-site registration.

## TUESDAY, JUNE 4

8:00 - 10:00 a.m.  
Grand Mesa Foyer

**Registration**

8:00 - 8:45 a.m.  
Atrium

**Continental Breakfast**

9:00 - 10:00 a.m.  
Grand Mesa ABC

**PLENARY 3**  
**Affirmative Action: Promise or Progress? What Lies Ahead?**

Speaker:

**Yvonne Freeman, Ph.D.**  
Provost and Vice President  
Clark Atlanta University

"Affirmative Action" is currently under fire. What are the facts? Has affirmative action accomplished what it was designed to do? Can and should affirmative action remain intact, with modifications in its implementation alone? Given that some changes are inevitable, how can we make sure that women and men, minorities and non-minorities continue to be treated as equal partners in our workplaces?

10:00 - 10:15 a.m.

Break

10:15 - 11:15 a.m.

## SESSION 7

Mesa Verde ABC

- A. Facilitated Discussion: An Interactive Discussion on Affirmative Action

Moderator:

**Kristy Schloss**  
President  
Schloss Engineered Equipment, Inc.

Recorder:

**Jill S. Baylor, P.E.**  
Assistant Vice President  
Stone & Webster Management Consultants

Speakers:

**Stephanie Allen**  
President  
The Athena Group

**James Mejia**  
Executive Director  
Human Rights and Community Relations  
City and County of Denver

This session will be a panel discussion on affirmative action, with full audience participation. The myths and realities surrounding affirmative action implementation and results will be reviewed. Potential changes in affirmative action will be examined in light of recent legal and political decisions.

Wind River AB

- B. Programs at 2-Year and Community Colleges

Moderator:

**John C. Vergelli**  
Program Manager  
National College Recruiting  
IBM Corporation

Speaker:

*Successful Intervention Programs from a Community College: ATOMS, RSI, and Vocational Gender Equity*

**Judy P. Remsberg**  
Grant Administrator  
Thomas Nelson Community College

Because of a predicted shortage of a trained workforce, Thomas Nelson Community College and six premier industries developed two programs geared to the average achiever. The goal of these programs is to instill an interest in math and science in these often forgotten students. Approximately 2700 students from all 19 middle schools on the peninsula participate in ATOMS and RSI each year.

Speaker:

*Females Involved from Regional Schools in Technology and Engineering (FIRSTE): Overcoming the Challenge of Recruitment*

**Joan A. Begolly**  
Instructor of Engr./Engr. Technology  
Penn State New Kensington Campus

The Penn State New Kensington Campus offers an annual, two-day summer program targeted at 9th through 11th grade females from local high schools. Entitled "Females Involved from Regional Schools in Technology and Engineering" (FIRSTE), this event involves "hands on" computer-based design, practical laboratory applications and technical report writing as a means of introduction to engineering technology and engineering programs at the campus.

Wind Star AB

- C. New Ways of Looking at Engineering Education: TQM

Moderator:

**Marjorie A. Leavene**  
Coordinator, Student Services  
University of Missouri at Columbia

Speaker:

*A TQM Study of Women in Engineering*

**Deborah J. Walter**  
Ph.D. Candidate, Electrical Engineering  
Pennsylvania State University

This paper summarizes the findings of a TQM (Total Quality Management) team setup with the goal of improving the situation for women in the College of Engineering at Penn State. We present how the team was formed, what the team accomplished including some benchmarking results with other schools, and our conclusions. We define the following roles of the University in our analysis: educator, producer of graduates, alma mater, corporation, state institution, workplace, and leader for social change. It is our hope that other universities could find this technique useful and follow our model.

11:30 a.m. - 12:30 p.m. Lunch  
Grand Mesa DE

12:45 - 1:45 p.m.

## SESSION 8

Mesa Verde ABC

- A. Evaluating the Impact of Two Initiatives

Moderator:

**Patricia Berry Glassner**  
Director, Women in Engineering Program  
University of Colorado at Boulder

Speakers:

*THE YEAR OF THE WOMEN: A Report on the First Year of Coeducation at Rose-Hulman Institute of Technology*

**Caroline Carvill, Ph.D.**  
Associate Professor of American Literature  
Rose-Hulman Institute of Technology

**Susan L. Smith**  
Director, Learning Center and  
Assistant Professor, English  
Rose-Hulman Institute of Technology

In the fall of 1995, Rose-Hulman Institute of Technology admitted undergraduate women for the first time in its 121 years of existence. By June 1996, we will have completed our first full year as a coeducational institution. Drawing on statistical data, observation, and personal interviews with students, faculty, and staff, we will assess the impact of this change on our first female students and our educational environment. In this presentation, we will discuss the three primary stages involved in successfully changing from an all-male environment to a coeducational institution: preparation, implementation, and evaluation.

Speaker:

*Factors Influencing Women's Pursuit of a College Science Major or Science Career: An Evaluation of the Women in Science Project (WISP)*

**Christine M. Cunningham, Ph.D.**  
Project Director, Institute on Science and the Environment for Teachers  
Cornell University

This paper reports the results of a year-long evaluation of the Women in Science Project (WISP) at Dartmouth College. The evaluation investigated the im-



act of WISP, collected college science career histories, and tracked freshmen's science, math, and engineering research internships. The paper stills some of the crucial decisions and factors affecting women's choice and pursuit of a science major. Six major themes emerged from the quantitative and qualitative analysis: confidence, personal contact and teamwork, the bigger picture, career plans, understandings about scientific research, and the issue of women in science.

Wind River AB

**B. Curriculum Reform: Innovative Teaching Methods**

Moderator:

**Lisa M. Frehill, Ph.D.**  
Assistant Professor  
New Mexico State University

*Impact of an Alternative Teaching Method:  
Perspectives of Minority Female  
Engineering Students*

Speaker:

**Judy A. Perkins, Ph.D.**  
Associate Professor, Civil & Env. Eng. Dept.  
University of New Orleans

The purpose of this paper is to discuss a non-traditional teaching method of the future, describe the receptiveness of minority female engineering students toward this new form of instruction, and how this method enhances the transportation subject area.

Speaker:

*Inside Engineering Faculties: Developing a  
New Layer of Advocacy in Australia*  
**Sue Lewis, Ph.D.**  
Research and Staff Development Coordinator  
National Centre for Women  
Swinburne Univ. of Technology, Australia

Currently there are three broad categories of "women in engineering" intervention programs within Australia: recruitment programs in schools and the community, retention programs focusing on support for women in engineering courses, and educational development programs for teaching staff in engineering faculties. This paper outlines a number of educational development programs that are challenging and improving the teaching and learning within engineering faculties through working with teams of academic staff.

Wind Star AB

**C. Campus Climate - Perspectives From Coalitions**

Moderator:

**Sue Scheff**  
Director, Women in Engineering Program  
University of Kentucky

*Efforts to Retain Women in Engineering: A  
Perspective of the Foundation Coalition  
Project*

Speaker:

**Karan Watson, Ph.D.**  
Assistant Dean of Engineering and  
Professor of Electrical Engineering  
Texas A&M University

The Foundation Coalition, the fifth engineering coalition funded by the National Science Foundation, has focused on curriculum integration, cooperative learning, technology enhancements, and assessment and evaluation in the first and second years of the curricula on seven diverse campuses. This paper focuses on how the classroom and curricula innovations have affected women in the courses.

Speaker:

*Climate of Engineering Education in the  
SUCCEED Coalition*  
**Deidre Hirschfeld, Ph.D.**  
Assistant Professor, Engineering Fundamentals  
Division  
Virginia Polytechnic Institute & State  
University

The first administration of the NSF sponsored Southeastern University and College Coalition for Engineering Education (SUCCEED) administered a survey on the climate of engineering education in institutions within the coalition. The survey was conducted during the winter/spring months of 1995 at seven universities who are SUCCEED members. Approximately 4000 students responded, yielding an overall response rate of 43%. The results in terms of gender and class will be discussed in detail and compared with anecdotal data from focus groups and other studies conducted on the individual campuses. Preliminary results indicate a "chilly climate" exists but that the individuals are finding ways to cope with the environment.

1:45-1:50 p.m.

Break

1:50 - 2:45 p.m.  
Mesa Verde ABC

WEPAN Annual Meeting

New!! WEPAN Awards will be presented. Door Prize Drawings (must be present to win!) Election results. Reports from officers and action groups.

**POSTERS**

4:00 - 4:45 p.m.

Chasm Creek AB

A. POSTER SESSIONS

*A Hands-On Activity to Empower Students-as-  
Customers of Classroom Climate*

**C. Jan Carpenter, Ph.D.**  
Department of Psychology, Women's Studies  
Pennsylvania State University

This poster presents a classroom hands-on-activity that empowers freshman females in science and engineering colleges about institutional and classroom climate; it also produces student generated assessment of "chilly climate" (i.e. Hall & Sandler's use of term). The class activity is a "bottom-up" approach to educating students about climate. Instructions for classroom use are provided. Examples of the type of student-generated assessment of institutional climate are presented in graphic form, for each semester separately, and with categories of positive and negative bias toward male or female students collapsed to show consistency of patterns across the different semesters and groups of students.

*Inside Engineering Faculties: Developing a  
New Layer of Advocacy in Australia  
(also session 8B)*

**Sue Lewis, Ph.D.**  
Research and Staff Development Coordinator  
National Centre for Women Swinburne  
University of Technology, Australia

The National Centre for Women (NCW), based at Swinburne University of Technology, is a unique university centre in Australia whose current brief is to research and enhance women's recruitment into and equal participation within "non-traditional" employment, education and training. This poster presentation will focus on: 1) the NCW and its women and engineering programs; 2) the data for the participation of women in engineering study and work in Australia; and 3) providing an overview of educational development programs in a number of Australian Universities.

*Summer College Experience for High School Students at University of Idaho*  
**Jean A. Teasdale, Ph.D.**  
Director of Administrative Services  
University of Idaho

The University of Idaho College of Engineering has offered a summer experience for high school students for twenty-eight years. While the program has helped to identify students interested in engineering, it has not been as successful in attracting young women into the summer workshop or into engineering at the college level. There continues to be a problem with the way young women perceive their abilities in math, science and engineering. To change the perception that young women have about themselves and the fields of engineering, the college offered a two-week summer engineering experience for young women and men. The workshop incorporated strategies to improve the instructional climate provided by the faculty; the understanding of gender and cultural diversity issues by students, faculty, and counselors; and the self-esteem of the young women.

*Innovative Recruitment and Retention of Minorities: A Case Study of Vanderbilt University Summer Research Program for High School Students and K-12 Science Teachers*  
**Carolyn Ruth A. Williams, Ph.D.**  
Assistant Dean for Minority Affairs/Assoc.  
Prof. of the Practice of Engineering Education  
Vanderbilt University

The Minority Engineering Summer Research Program is an intensive five-six week program designed for high school students who will enter Vanderbilt University in the fall. In 1991, the scope of the program was expanded to include elementary and secondary school science teachers in its mission to stimulate minority students' interest in pursuing careers in engineering and scientific research. The major objective of the Science Teacher Component is to improve the quality of science education for high school, middle school, and elementary school students by exposing science teachers to new applications, technology, and research which will enhance and strengthen the development of teaching materials and form partnerships with scientific faculty investigators. The "nuts and bolts" of this innovative program will be discussed as a new approach for training science teachers and forming partnerships.

*Wonder to Exploration: A Collaborative Effort Between a WISE Program and the Girl Scouts to Introduce Girls to Engineering*  
**Angela Middleton**  
Assistant Director, Women's Programs  
Arizona State University

In an effort to address gender inequity in math and science education, the Arizona State University's Women in Applied Science and Engineering (WISE) program developed and implemented three, week-long residential camps for the Arizona Cactus-Pine Girl Scout Council, Inc., entitled "Wonder to Exploration" during the summer of 1995. The camps were designed for three age groups: 2nd-3rd grade, 4th-5th grade, and 7th-8th grade; and each was an age-appropriate, hands-on introduction to engineering, facilitated by college engineering students.

*Math Options: A Math and Science Equity Program for Young Women: The Past, The Present, and The Future*  
**Janice M. Margle**  
Associate Professor of Engineering  
Penn State Abington-Ogontz Campus

Since June of 1994 when the Math Options program was first introduced to WEPAN at its annual meeting, the program has experienced an increase in demand and the need for further expansion. Math Options, which is a gender equity program for young women, has been able to grow and move forward through the sustained help and support of individuals in both industry and academia.

*Inquiring Into Engineering: A Summer Workshop for High School Teachers (also session 3C)*  
**Jean Cathcart**  
Systems Engineer  
Texas Instruments

Inquiring Into Engineering was a summer workshop to acquaint high school math and science teachers with the basic concepts of engineering. The workshop also provided an opportunity for the teachers to develop "hands-on" activities to take back to their classrooms to open discussions about math, science and engineering. Two follow-on activities were required of each teacher—an in-class use of the "hands-on" activity and a teacher workshop where they shared their knowledge with other teachers.

*Clustering to Improve Retention of Women in Engineering*  
**Deidre Hirschfeld, Ph.D.**  
Asst. Professor, Engineering Fundamentals Div.  
Virginia Polytechnic Institute & State University

In an effort to improve retention rates of women in its engineering programs, Virginia Tech has instituted voluntary gender clustering in the first engineering class (EF1005-Introduction to Engineering Fundamentals, Problem Solving, and Computer Programming) offered to incoming freshmen and transfer students. This clustering was not intended to produce women-only sections of this class but to create multiple sections which are ethnically diverse containing a greater number of women in each section making it easier for them to establish study groups with their gender peers. The clustered sections were also supported by academic workshops conducted by upper class students who were specifically trained as workshop leaders. This poster describes the first year experience of gender clustering in eight classes of engineering fundamentals including enrollment issues, faculty and departmental resistance, acceptance by students, and results of how the women fared during their first year in engineering.

*Early Cooperative Work Experience: A Comparison for Male and Female Freshman Engineering Students*  
**Laura L. Sullivan, Ph.D.**  
Asst. Professor, Manufacturing Systems Engr.  
GMI Engineering & Management Institute

The results of a survey of freshmen indicate differences in cooperative work assignments based on gender. These results also assist in the development of an orientation program for female students about to begin working in industry.

*Starting Small: Armed, Dangerous & Determined*  
**Edith Withey**  
Assistant Dean, Office of Student Affairs  
GMI Engineering & Management Institute

is presentation will include a 5-10 minute video on two programs, along with a display board (poster and brochures).

*Sorting through the Chaff: Locating and Using Research Sources for Women (also session 1B)*  
**Tanya L. Zanish**  
Curator, Archives of Women in Science & Eng.  
Iowa State University

is poster will present the myriad sources for locating information on women in engineering. The author, a trained archivist, will detail the various federal, state, regional, and academic organizations where researchers can locate statistics, articles concerning the gender gap, and current information about practicing engineers. She will also discuss techniques in locating secondary sources, historical repositories and archival collections, utilizing printed guides, computer databases, and the World Wide Web.

*ENGR 194, A Retention Strategy for First Year Women Students*  
**Jane Z. Daniels, Ph.D.**  
Director, Women in Engineering Programs  
Purdue University

ENGR 194, a one credit elective course for first year female students, is a major component of the retention activities for female engineering students at Purdue University. First year retention in engineering for female students increased from 35% to more than 80% since the course was institutionalized. In addition to course format and content, an analysis of student journal entries and results of the course evaluation will be given.

*The Mentor Program: Building a Bridge for Women in Engineering*  
**Irene R. Mikawoz, P. Eng.**  
Director of Student Affairs  
University of Manitoba

The mentor program provides a support system for female students studying engineering (mentees) and for women who are at various stages of their engineering career (mentors). It provides an opportunity to network on an academic, business, and social level. It helps participants develop tools, skills and strategies for the professional and personal challenges that women face in their engineering career. The primary goal of the program is to create a forum that encourages women to network, enhance self-confidence, and promote the discussion of potential barriers and solutions in one's academic, professional and family life.

4:45 - 5:30 p.m.  
Chasm Creek AB

**B. POSTER SESSIONS**

*Successful Intervention Programs from a Community College: ATOMS, RSI, and Vocational Gender Equity (also session 7B)*  
**Judy P. Remsberg**  
Grant Administrator  
Thomas Nelson Community College

Vocational Gender Equity serves primarily single parents and displaced homemakers. Many of these students are living at or below poverty level and lack the basic training to seek employment at levels that would enhance their quality of life. The primary mission is to assist in career development, referral, job training and placement. The secondary goal is to provide instruction and support services for nontraditional careers such as engineering.

*Humanization of Engineering Curriculum (also session 4C)*  
**Patricia F. Mead, Ph.D.**  
Assistant Professor, Mechanical Engineering  
University of Maryland

Several strategies, as agreed upon by a panel of engineering and psychology faculty, and a group of women undergraduate Fellows, for pursuing increased participation of engineering students have been identified. These strategies have been implemented in a select group of 6 engineering classes and an evaluation of the initial impact, as well as the potential long-range influence of these pedagogical modifications will be presented.

*1996 Society of Women Engineers: Beattie Elementary Girls in Math and Science Club Sled Design Contest*  
**Susan P. James, Ph.D.**  
Assistant Professor, Mechanical Engineering  
SWE Faculty Advisor  
Colorado State University

The Colorado State University (CSU) Society of Women Engineers (SWE) student section held a snow sled design contest for the Beattie Elementary Girls in Math and Science Club during February and March of 1996 to show the girls how fun and important engineering can be, and also to encourage interaction between the elementary school-age girls and the college-age engineering female students. The girls worked with SWE students on the design and construction of a snow sled. The contest categories included speed, steering (maneuverability/control), safety, and overall design.

*Linking Girls and Their Technological Futures Through Informal Science: An Implementation Model in Iowa*  
**Krishna S. Athreya, Ph.D.**  
Coordinator of On Campus Programs  
Program for Women in Science and Engineering  
Iowa State University

The overall goal of the project is to create positive, permanent change in the Iowa informal education infrastructure by promoting the interest of women and girls in Science, Engineering and Math (SEM) activities through hands-on activities designed to increase their comfort levels with SEM. The strategy is to develop and implement methods that encourage continuity of the learning process beyond formal, institutionalized settings. During the project's lifetime and beyond, research outcomes are also expected relating to effectiveness of the project in affecting SEM attitudes and proficiency levels among females who participated in different settings, for example, mixed-gender sessions versus all-girl ones, live training versus interactive video via fiber optic network, and adult-led versus peer-led activities.

*The GOES Project: A Successful Outreach Program that Introduces Middle School Girls to Engineering (also session 6C)*  
**Margaret A. Wheatley, Ph.D.**  
Associate Professor, Chemical Engineering  
Drexel University

The Drexel University Women in Engineering (WIE) Program is sensitive to the reality that many young girls do not choose engineering as a career path. Drexel WIE initiated GOES (Girls' Opportunities in Engineering and Science), an outreach effort which seeks to remedy detrimental effects of women's under-representation in engineering by creating an engineering workshop that literally GOES to middle and junior high schools close to Drexel University. This paper will describe a typical GOES visit, from the logistics and examples of the handouts and discussions to videos of the girls engaged in the hands-on

*Partnering a Path for Women in Engineering  
(also session 3C)*

**Kathy Weismehl Herbener**  
Manufacturing Development Engineer  
Hewlett-Packard

Partnership between Hewlett-Packard and Northern Colorado school districts is formed to promote systemic change in math and science teaching methods. Hewlett-Packard donates the time of a woman engineer one day a week to train and mentor K-12 teachers in encouraging young women in math, science, and technology. Data from the partnership will be shared.

*Careers of Women Who Study Physics: Finding  
From a 1994 Survey of Sigma Pi Sigma Members*  
**Geneva Blake**  
Research Associate  
Education & Employment Statistics Division  
American Institute of Physics

In the summer of 1994, we surveyed members of the Sigma Pi Sigma national physics honor society by mail, with the goal of obtaining information about the kinds of careers former physics students pursue. Because women have historically been, and continue to be, severely underrepresented in physics, they were oversampled at a rate of five women for every two men. Their responses provide a glimpse of the range of careers which women who have studied physics pursue, in fields ranging from engineering and computer science to medicine and academic research. The data also provide a basis for comparison with men like abilities and educational backgrounds.

*Careers in Science and Engineering: A  
Speaker's Series in Collaboration with an NSF  
Visiting Professor*  
**Stephanie Blaisdell**  
Director, Women's Programs  
Arizona State University

During the Spring Semester, 1995, the Arizona State University's (ASU) Women in Applied Sciences and Engineering (WISE) Program, in collaboration with an NSF Visiting Professor in ASU's Physics Department, hosted a Careers in Science and Engineering speaker's series. With funds provided by the NSF grant, six renowned women scientists and engineers were brought to campus to speak with students and faculty to encourage networking and emphasize the importance of women's participation in these fields.

*Critical Connections: The Secret to the Success  
of Women in Math, Science and Engineering*  
**Sandra C. Cooper**  
Asst. Prof. of Mathematics & Coordinator,  
Committee on Women in Math, Science, & Engr.  
Washington State University

The Washington State University Women in Engineering Program and Committee on Women in Math, Science and Engineering concentrate on supporting women in math, science and engineering. We will share with you our programs and services, our joys and frustrations, and plans for the future. Most of our programs foster the connections between women that are critical to their success.

*The World Wide Web and WEPAN  
(also session 1B)*

**Lisa J. Oliveira**  
Assistant Director of Admissions  
Massachusetts Institute of Technology

We will provide hard copies of the handouts presented during the presentation, as well as hard copies of the WEPAN web pages, and available web resources for page authoring and information access.

*Freshman P.O.W.E.R.*  
**Dorie McCubbrey, Ph.D.**  
Director, Women in Engineering Program  
The University of Akron

The University of Akron has developed an orientation program for new women freshmen in engineering. This program, entitled Freshmen P.O.W.E.R. (Preview Of Women Engineers Retreat), provides new students with the tools for success in the pursuit of their engineering degrees. The one-day program is flexible to meet the needs of 10 to 50 students, requires minimal equipment or materials, and is very cost-effective. The program includes hands-on engineering activities plus topics related to campus life.

*Increasing Female Involvement in Research at  
the Center for Biofilm Engineering*  
**Jeralyn M. Brodowy**  
Education Coordinator, Center for Biofilm Engr.  
Montana State University

The Center for Biofilm Engineering (CBE) was established at Montana State University - Bozeman in 1990 by the National Science Foundation Engineering Research Centers program. The Center's mission is to understand, control and exploit biofilm processes through advances in knowledge, technology and education. The CBE is committed to developing a diverse group of students, including women and ethnic minorities, especially Native Americans. The CBE works with MSU's Engineering Minority Program (EMPower) to encourage the involvement of women and ethnic minorities in the fields of engineering. Since 1991, the CBE has increased the percentage of women graduate students from 18% to 29%. The Center has also been successful in creating undergraduate research opportunities and has increased the involvement of female undergraduates in research programs from 27% in 1990 to 43% in 1995.

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#### The States of:

Alaska	Nevada
Arizona	New Mexico
California	Oregon
Colorado	Utah
Hawaii	Washington
Idaho	Wyoming
Montana	

#### Members from:

Pacific Countries
Asian Countries
Canadian Provinces:
Alberta
British Columbia
Northwest Territories
Yukon

### MIDWESTERN REGION

#### The States of:

Arkansas	Missouri
Illinois	Nebraska
Indiana	North Dakota
Iowa	Ohio
Kansas	Oklahoma
Kentucky	South Dakota
Louisiana	Tennessee
Michigan	Texas
Minnesota	Wisconsin
Mississippi	

#### Members from:

Mexico
Central America
South America
Canadian Provinces:
Ontario
Manitoba
Saskatchewan

### EASTERN REGION

#### The States of:

Alabama	New York
Connecticut	North Carolina
Delaware	Pennsylvania
Florida	Puerto Rico
Georgia	Rhode Island
Maine	South Carolina
Massachusetts	Vermont
Maryland	Virginia
New Hampshire	West Virginia
New Jersey	Washington, D.C.

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<b>Susan Wood, Ph.D.</b> Vice President and Director, Westinghouse Savannah River Company

# PROGRAM AT-A-GLANCE

## SATURDAY, JUNE 1

WEPAN Board Meeting (Wind River AB)  
 Registration (Mesa Verde Foyer)  
 WORKSHOP 1 (Mesa AB)  
 Evaluation - Interactive Hands-On Planning  
 WORKSHOP 2 (Highlands)  
 Steps to Leadership Success  
 New Member Reception (Wind River AB)

## SUNDAY, JUNE 2

Registration (Grand Mesa Foyer)  
 Conference Welcome  
 & Introduction (Grand Mesa ABC)  
 PLENARY 1 (Grand Mesa ABC)  
 Classroom Climate Revisited  
 Bernice R. Sandler, Ph.D.

### SESSION 1

- A. Workshop - Teaching Professional Survival Skills to Women in Engineering Students (Mesa Verde ABC)
- B. Utilizing Resources Effectively: From the Library to the World Wide Web (Highlands)
- C. Bridging the Gender Gap in Engineering and Science: The Challenge of Institutional Transformation (Wind Star AB)
- D. Situation of Women Academics in the New Länder in Germany (Wind Star AB)

Lunch (Atrium)

### SESSION 2

- A. Workshop - Communication and Conflict Resolution Between Colleagues (Highlands)
- B. Helping Women Select Career Paths (Wind Star AB)
- C. Perspectives of Female Executive Scientists & Engineers - Panel Discussion (Mesa Verde ABC)

Break

### SESSION 3

- A. The Experience of Being a Woman Engineering Student: Perspectives and Coping (Highlands)
- B. Navigating Career and Family Paths: Personal Perspectives - Panel Discussion (Mesa Verde ABC)
- C. K-12 Programs: Innovative and Collaborative Approaches (Wind Star AB)

WEPAN Action Group Meetings  
 Admissions (Highlands)  
 Faculty (Wind Star AB)  
 International (Mesa Verde ABC)  
 Research (Wind River AB)

Dinner (Grand Mesa ABC)

"Miz Wizard's Science Secrets" (Grand Mesa ABC)

## MONDAY, JUNE 3

Registration (Grand Mesa Foyer)  
 Continental Breakfast (Atrium)  
 PLENARY 2 (Grand Mesa ABC)  
 Women Engineers and the New Focus on International Education  
 William E. Kirwan, Ph.D.

10:30 - 11:30 a.m.

11:45 a.m. - 1:00 p.m.

1:15 - 2:30 p.m.

2:30 - 2:40 p.m.

2:40 - 3:55 p.m.

3:55 - 4:00 p.m.

4:00 - 5:30 p.m.

3:45 - 6:00 p.m.

5:30 - 6:30 p.m.

7:00 - 9:00 p.m.

8:00 - 10:00 a.m.

8:00 - 8:45 a.m.

9:00 - 10:00 a.m.

10:15 - 11:15 a.m.

11:30 a.m. - 12:30 p.m.

12:45 - 1:45 p.m.

1:45 - 1:50 p.m.

1:50 - 2:45 p.m.

### SESSION 4

- A. Facilitated Discussion - An Interactive Discussion of International Programs (Wind River AB)
- B. Workshop - Practical Advice for Women in Engineering Program Administrators: What To Do When An Allegation of Sexual Harassment Walks in Your Door (Mesa Verde ABC)
- C. Curriculum Reform (Wind Star AB)

Lunch (Grand Mesa DE)

### SESSION 5

- A. Workshop - Gender Communications: He Said...She Said... (Mesa Verde ABC)
- B. Campus Climate Issues (Wind River AB)
- C. Corporate Strategies for Increasing the Participation of Women: A Panel of Industry Representatives (Wind Star AB)

Break

### SESSION 6

- A. Workshop - Maximizing Your Resources: Working Effectively With Student Employees (Mesa Verde ABC)
- B. Retention Efforts - Programs That Work (Wind Star AB)
- C. K-12 Outreach Programs (Wind River AB)

Break

POSTER SESSIONS (Chasm Creek AB)

Book Sale by Tattered Cover Bookstore (Chasm Creek Foyer)

Reception (Atrium)

Gender Equity Workshop for Middle and High School Teachers (Highlands)

## TUESDAY, JUNE 4

Registration (Grand Mesa Foyer)

Continental Breakfast (Atrium)

PLENARY 3 (Grand Mesa ABC)

Affirmative Action: Promise or Progress? What Lies Ahead?  
 Yvonne Freeman, Ph.D.

### SESSION 7

- A. Facilitated Discussion - An Interactive Discussion on Affirmative Action (Mesa Verde ABC)
- B. Programs at 2-Year and Community Colleges (Wind River AB)
- C. New Ways of Looking at Engineering Education: TQM (Wind Star AB)

Lunch (Grand Mesa DE)

### SESSION 8

- A. The Year of the Women: A Report on the First Year of Coeducation at Rose-Hulman Institute of Technology (Mesa Verde ABC)
- B. Curriculum Reform: Innovative Teaching Methods (Wind River AB)
- C. Campus Climate - Perspectives From Coalitions (Wind Star AB)

Break

WEPAN Annual Meeting (Mesa Verde ABC)

# 1995 WEPAN CONFERENCE ADMINISTRATION

## CONFERENCE CHAIR

**Miriam K. Maslanik, Ph.D., P.E.**  
University of Colorado at Boulder

## CONFERENCE CO-CHAIR

**Suzanne Laurich-McIntyre, Ph.D.**  
University of Washington

## CONFERENCE PROGRAM COMMITTEE

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University of Maryland

**Suzanne G. Brainard, Ph.D.**  
University of Washington

**Cinda-Sue Davis, Ph.D.**  
University of Michigan

**Barbara B. Lazarus, Ph.D.**  
Carnegie Mellon University

**Susan Staffin Metz**  
Stevens Institute of Technology

**Robyn E. Sandekian**  
University of Colorado at Boulder

**Karan L. Watson, Ph.D.**  
Texas A&M University

## ADMINISTRATIVE COORDINATOR

**Cathy M. Deno**  
Purdue University

## LOGISTICS COORDINATOR

**Suzanne Laurich-McIntyre, Ph.D.**  
University of Washington

## RESOURCE ROOM COORDINATOR

**Robyn Sandekian**  
University of Colorado at Boulder

## PUBLIC RELATIONS COORDINATOR

**Susan Staffin Metz**  
Stevens Institute of Technology

## VOLUNTEER COORDINATOR

**Kathleen Bott**  
Stevens Institute of Technology

## PROFESSIONAL ASSISTANTS

**Claire LeBlanc**  
University of Washington

## STUDENT PROGRAM ASSISTANTS

**Linda Carlin**  
University of Washington

**Tamu Floyd**  
Purdue University

**Alynn Gentry**  
Purdue University

**Deborah Harkus**  
University of Washington

**Alison Komacki**  
Stevens Institute of Technology

1996 WEPAN CONFERENCE  
ADDENDUM/CHANGES  
as of 5/30/96

**CONFERENCE REGISTRATION:**

In addition, each registrant will receive a roll of color film from Eastman Kodak and a stress-reducing ball from US West Inc.

**BOOK SALE:**

The Tattered Cover Bookstore also accepts American Express.

**SATURDAY, JUNE 1, 1996**

**WORKSHOP 1**

Location is Mesa Verde AB.

**MONDAY, JUNE 3, 1996**

**Session 4A:**

Speaker Pamela Kurstedt will not be here.

**Session 5C:**

Speaker from Mobil TBA.

**Gender Equity Workshop:**

Workshop presenter Betty Preece will not be here. However, another AAPT resource person will lead workshop.

**TUESDAY, JUNE 4, 1996**

**Session 7A:**

Steven T. Halverson  
Regional Vice President  
M. A. Mortenson Company

replaces speaker Stephanie Allen.

**Session 8B:**

Professor Linda F. Simmons  
Southern University

replaces speaker Judy Perkins.