

*EVALUATION OF THE 1998 WEPAN NATIONAL CONFERENCE:
WOMEN IN ENGINEERING PROGRAM ADVOCATES NETWORK (WEPAN)*

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June 14-16, 1998

SEATTLE, WASHINGTON

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EVALUATION OF THE 1998 WEPAN NATIONAL CONFERENCE

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CONFERENCE OVERVIEW

The primary goal of the 1998 National WEPAN Conference was to further increase the participation of women and minorities in science and engineering.

The specific objectives were to:

1. Conduct technical and programmatic seminars for institutions desiring to initiate, replicate, or expand women and minorities 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.

WEPAN, a non-profit educational organization, was founded in 1990 in order to effect a positive change in the engineering infrastructure, in which the academic and social climate becomes conducive to women in engineering and the supporting sciences. To do this, technical assistance and training are offered to community colleges, colleges and universities to initiate or expand women in engineering and science programs focused on recruitment and retention at the pre-college, undergraduate and graduate levels. WEPAN has a membership of over 500 and is lead by a twenty-one person Board of Directors from academia and industry.

CORPORATE SPONSORS

The US Department of Energy was the prime sponsor of this year's conference. They have our deep appreciation for their continued and generous support.

The other conference contributors were as follows:

Alcoa Foundation

American Gas Association

AT&T Foundation

Corning Inc.

The Dow Chemical Company

DuPont deNemours & Company, Inc.

IBM Corporation

Northrop Grumman Corporation

Microsoft Corporation

Mobil Corporation

NASA

Texaco

Texas Utilities

PLENARY TOPICS AND SPEAKERS

Highlights of the conference included outstanding speakers who delivered the keynote presentations. The speakers included: Constance W. Rice, Senior Vice Chancellor, Seattle Community Colleges; Sarah M.R. Jewell, Executive Vice President, Washington Mutual Bank; Deborah N. Willingham, Vice President, Enterprise Customers, Microsoft Corporation; Hans Peter Jensen, Ph.D., Rector, Technical University of Denmark; Jane Grimson, Ph.D., Dean, Faculty of Engineering and Systems Sciences; Martha Krebs, Ph.D., Director, Office of Energy Research, US Department of Energy; Shirley M. Malcolm, Ph.D., Head of the Directorate for Education and Human Resources Programs, AAAS; George D. Peterson, Ph.D., Executive Director, ABET; and Edward A. Parrish, Sc.D., President, Worcester Polytechnic Institute.

PERSPECTIVES FROM EXECUTIVE WOMEN ON OUR FUTURE

Constance W. Rice, Ph.D., Sarah M.R. Jewell and Deborah N. Willingham

GLOBAL CHALLENGES FOR WOMEN IN ENGINEERING

Hans Peter Jensen, Ph.D. and Professor Jane Grimson, Ph.D.

PREPARATION FOR THE GLOBAL WORKFORCE

Martha Krebs, Ph.D. and Shirley M. Malcom, Ph.D.

ABET 2000 AND BEYOND

George D. Peterson, Ph.D. and Edward A. Parrish, Sc.D.

WORKSHOP TOPICS

In addition to the keynote speeches, 74 speakers, including workshop leaders and presenters, delivered 24 sessions. The subjects of the sessions were:

Corporate Diversity Programs

Navigating the Tenure Track

International Issues

Strategies for Closing the Gender Gap

Faculty: Mentoring, Advising, and Family Work Policies

International Engineering Curriculum and Programs: Denmark, Sweden, and Canada

Balancing Teaching, Advising, Research, and Service

Gender Equity and Classroom Climate

Evaluation and New Initiatives

International Projects for Promoting Women in Science and Engineering

WIE Program Development from Concept Through Funding

Success by Design

Pre-college Programs and Curriculum: Do They Work?

Strategies for Climbing the Academic Career Ladder

Feminism, Women's Studies and Engineering: Opportunities and Obstacles

International Perspectives: India, Romania, and the United Kingdom

Training Mentors and Mentees in S&E: Workshop

Retention of Women in Science and Engineering

Reexamining the Global Definition of an Engineer

Mentoring Models: Using Technology

Academic Climate and Student Retention

WIE Role in Corporate Connections to High Potential Students

Innovative Approaches to Diversity

Curriculum Programs: K Through Graduate School

Affirmative Action Update: Where Are We? Where Are We Going?

WEPAN AWARDS PRESENTED FOR OUTSTANDING ACCOMPLISHMENTS

WEPAN recognized outstanding accomplishments of its 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 15, 1998, in Seattle, Washington.

The Founders Award

The Founders Award honors a WEPAN member who exemplifies the spirit of the WEPAN founders through her or his extraordinary service to the organization. The award is named for the three founders of WEPAN, Inc. - Suzanne G. Brainard, Jane Zimmer Daniels and Susan Staffin Metz.

The Founders award was presented to Carol B. Muller, founder and executive director of MentorNet. The citations follow:

Carol Muller was honored for her "vision, creative and analytical thinking, collaborative focus and entrepreneurial spirit, which have contributed significantly to the mission and organizational development of WEPAN." As founder and executive director of MentorNet, Dr. Muller established a mentoring program designed to provide on-line resources to women and girls pursuing science and engineering and obtained significant visibility and increased credibility for WEPAN in the industry sector. An active member and supporter of WEPAN, Dr. Muller has served on the Board of Directors since 1995 and served on the Metrics and Milestones Committee, which took the lead role in developing a new strategic plan for WEPAN 1998-2001. She has participated in numerous WEPAN conferences and Regional Training Seminars as a speaker, group facilitator and moderator. Her fund raising efforts on behalf of WEPAN and MentorNet resulted in planning grants from Intel and Sloan Foundations, with subsequent funding of \$300,000 from AT&T Foundation and \$100,000 from Intel Foundation.

The Betty Vetter Award for Research

The Betty Vetter Award for Research recognizes notable achievement in research related to women in engineering. The award is named in memory of Betty M. Vetter, long time director of the Commission on Professionals in Science and Technology, who served as the first treasurer of WEPAN, Inc. and was a founding member of the Board of Directors.

The Betty Vetter award was presented to Dr. Patricia B. Campbell, President of Cambell-Kibler Associates, Inc. The citation follows:

Dr. Patricia B. Campbell, President of Campbell-Kibler Associates, Inc., was honored for "significant contributions to the body of research relevant to women in engineering issues and programs and [her] willingness to share [her] knowledge widely with contagious enthusiasm." Dr. Campbell is an expert in educational research and evaluation with a particular emphasis on issues of gender and ethnicity in math, science and technology. Her significant contributions to the field of research have reached and influenced teachers, parents, college faculty, administrators of women in engineering and science programs, and the public at large. She has authored more than 80 books, book chapters and articles.

The Women in Engineering Program Award

The Women in Engineering Program (WIEP) Award recognizes a new program or major recent advances in an existing program which can be used as a model by other institutions. This year two programs received the award: Texas A&M University and the University of Washington.

WEST, the Women in Engineering, Science and Technology Program, of the Dwight Look College of Engineering at Texas A&M University, was recognized for "the creation

and continuous improvement of programs to enhance the educational environment for students and faculty that have led to higher enrollments, retention, and graduation of women." Founded in 1993, with Jan Rinehart as director, WEST built on programs existing at A&M. In 1995, the program initiated an annual Women in Engineering Conference, which drew 336 participants in 1995 and MAPs (Mentors for Aggies) and, a year later, expanded a special housing option for women. An active participant in the NSF Foundation Coalition, WEST has arranged industry contact for students and conducted faculty training. A significant result has been the increased retention of women engineering students.

The Women in Engineering Initiative at the University of Washington was recognized for its significant contributions to the practices, training and evaluation of mentoring programs, thereby improving the climate for women in science and engineering. The WIE Initiative developed and disseminated A Curriculum for Training Mentors and Mentees in Science and Engineering, which is significant as a comprehensive approach to mentoring. Based upon the WIE Mentoring Program, it includes an administrator's guide with a comprehensive curriculum; individual handbooks for students, faculty, professional scientists and engineers; a bibliography of resources; an evaluation module; a video of scenarios depicting mentoring relationships; and a facilitated guide for group discussion. WIE, now the Center For Women in Science and Engineering (WISE), is directed by Suzanne Brainard, Ph.D.

The Breakthrough Award

The Breakthrough Award recognizes and honors an employer of women engineers for creating a work environment which enhances their career success. The name of the award signifies the ability of an employer to "break through" the artificial barriers which prevent women engineers from attaining their full potential.

The Breakthrough award was presented to the AT&T labs. The citation follows:

AT&T Labs was recognized for creating an environment that fosters the success of women in the engineering professions and sets an industry standard that encourages all employees to reach their highest career potential. AT&T Labs, and its parent company AT&T, have put into place policies and practices that support the advancement of women in engineering fields, including flexible benefits and work schedules. As a result the numbers and levels of women in engineering and technical positions at AT&T Labs are high: the percentage of total female women who work in engineering, computer science and information technology functions, is 25.2%, with approximately 5% occupying the highest level assignments (as compared with 9% of males in AT&T labs). AT&T offers special fellowship programs in support of women in engineering and several leadership development programs specifically for women including the Women's Leadership Program, the Catherine B. Cleary Award, The International Women's Forum Leadership Foundation Fellows Program and inclusion of the Smith College Executive Education Program for Women. AT&T has a long history of involvement with WEPAN.

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. The folder of materials received by each registered participant included an evaluation questionnaire.

The questionnaire included both structured and unstructured questions. For the structured questions, respondents selected from a range of five points, poor to excellent. The 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.

One-hundred eighty-three individuals from academia and industry participated in this conference. Of the participants, 40% were from the Eastern Region, 27% from the Midwestern Region, and 31% from the Western Region. Of those who attended, 20% responded to the evaluation questionnaire.

SUMMARY OF EVALUATION RESULTS

TABLE I: QUALITY RATINGS OF PLENARY SESSIONS

Plenary Sessions	%Poor	%Fair	%Good	%Very Good	%Excellent	# Resp.
Perspectives From Executive Women On Our Future	0	0	7	17	77	30
Global Challenges For Women In Engineering	0	0	19	44	38	16
Preparation For The Global Workforce	4	0	33	33	29	24
ABET 2000 And Beyond	8	0	17	42	33	12

* Note: The percentages in each table may not add to exactly 100% due to rounding in the calculations.

The plenary sessions were rated very highly. The majority of each rated them as at least very good.

TABLE II: Quality Ratings of Special Conference Activities

	% Poor	% Fair	% Good	%VeryGood	% Excellent	# Resp.
WEPAN Business Meeting	0	8	17	50	25	24
Web Browsing	9	0	27	18	45	11
Sunday Night Reception	0	0	4	13	83	23

* NOTE: The percentages in each table may not add to exactly 100% due to rounding in the calculations.

The plurality of the ratings for each of the special activities were very good or excellent. There were a low number of evaluations filled out for the Web Browsing, but the majority of ratings were excellent as well.

TABLE III: Quality Ratings of Conference Site

	% Poor	% Fair	% Good	%VeryGood	% Excellent	# Resp.
Quality of Meeting Rooms	0	0	0	8	92	36
Quality of Food	0	0	6	6	89	35
Quality of Location	0	0	3	19	78	37
Hotel Accommodations	0	3	9	32	56	34

* NOTE: The percentages in each table may not add to exactly 100% due to rounding in the calculations.

Ninety-two percent of those who responded rated the quality of meeting rooms as excellent, and the majority rated the quality of food at excellent as well. The majority also rated the location quality at excellent.

TABLE IV: Quality Ratings of Conference Registration

	% Poor	% Fair	%Good	%VeryGood	% Exc.	#Resp.
Registration Materials	0	0	8	46	46	37
Organization	0	0	8	19	72	36
Ease On Site Registration /Locating Rms.	0	0	14	24	62	37
Time of Day	0	0	0	39	61	36

* NOTE: The percentages in each table may not add to exactly 100% due to rounding in the calculations.

The vast majority of the responses rated each aspect of conference registration as very good or excellent. The plurality of the ratings for each were very good or excellent.

TABLE V: Quality Ratings of Poster Sessions

	% Poor	% Fair	% Good	%VeryGood	% Excellent	# Resp.
Organization	0	5	45	23	27	22
Presentation/Materials	0	10	48	19	23	21
Length/ Time	0	29	29	23	19	21
Relevance	0	0	21	32	47	19

* NOTE: The percentages in each table may not add to exactly 100% due to rounding in the calculations.

The organization of the poster session was rated as good to very good by 68% of the respondents and excellent by 27% of the respondents. It appears that about 30% of the respondents would have preferred more time to view the posters.

Session And Speaker Ratings

Participants reported that the best sessions they attended were:

Innovative Approaches to Diversity

Training Mentors and Mentees in S&E: Workshop

Feminism, Women's Studies and Engineering: Opportunities and Obstacles

International Perspectives: India, Romania, and the United Kingdom

Faculty: Mentoring, Advising, and Family Work Policies

Gender Equity and Classroom Climate

WIE Program Development From Concept Through Funding

Academic Climate And Student Retention

Preparation For The Global Workforce

Navigating The Tenure Track

Evaluation And New Initiatives

Pre-College Programs and Curriculum: Do They Work?

International Projects For Promoting Women In Science and Engineering

Success By Design

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

JIM FLOWERS

SHIRLEY MALCOLM

SALLY JEWEL

JANE GRIMSON

MARIE NOELLE BARTON

PAMELA R. MCCAULEY-BELL

STEPHANIE BLAISDELL

DEBORAH WILLINGHAM

JUDI WANGALWA WAKHUNGU

MARTHA KREBS

PATRICIA F. MEAD

MONIQUE FRIZE

GEORGE D. PETERSON

BARBARA BOGUE

MARY R. ANDERSON-ROWLAND

BANU SUBRAMANIAM

KARAN WATSON

PAULA LEVENTMAN

EDWARD A. PARRISH

PAMELA R. LUCAS

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 the next conference follow.

GENERAL SUGGESTIONS:

I think that every presenter should be required to bring copies of their presentation overheads.

The overall conference was tremendous.

Evaluations for every individual session is too much.

Wonderful amenities at the conference site.

I collected lots of relevant information

I will definitely attend the next conference in San Antonio since this one was so incredible.

In addition, participants made many suggestions for future speakers and future workshops for upcoming conferences. The suggestions include:

1. SPEAKERS

SHEILA WIDNALL

NAOMI ORESKES

CLAUDIA HENRION

SUSAN FUNK

2. SESSIONS

How to Raise Money for WIE Programs

The Effects that Children's Books and Television Have on Children's Beliefs Regarding Gender Issues

Occupational Segregation

ABET Initiatives

Changing the Climate- Systemic Change

Continuing Trends in Understanding Recruitment and Retention

CONCLUSION

Coupled with the evaluation results summarized above, the overall success of the conference was expressed by the participants' tremendous enthusiasm for WEPAN's coordination of the conference. The WEPAN Board of Directors continues to be grateful to Dr. Martha Krebs for her ongoing support of WEPAN both financially and as a keynote speaker.

The WEPAN Board of Directors and their 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*

A. Participant Comments - A Synopsis

Positive Comments

The conference was great!

I enjoyed the conference very much.

Excellent idea -- hope we do it again!

The overall conference was tremendous.

The hotel accommodations were superior.

The conference was friendly and informative.

Excellent topics and presentations were offered at the conference.

Detailed, practical information was offered.

The ideas presented were stimulating and diverse. Thanks!

The topics were better than presented in the program.

I would like to commend the committee for the excellent conference!

I really enjoyed having women in the engineering fields currently discuss their experiences and anecdotes. Another plenary or side discussion would be worthwhile.

Suggestions

Would have preferred copies of all of the presenters handouts.

Presenters should bring copies of their overheads.

More time could be allotted for question/ answer, and discussion sessions.

There was not enough interest to justify the work that a poster presentation entails.

Would like to have role models at the assoc. and full professor level.

Hotel was very nice, but expensive.

Posters should be kept up longer to be more visible.

Evaluations should include room for each speaker in a session.

B. Quality Ratings of the Workshops

Table 1-1: Corporate Diversity Programs

	% Poor	% Fair	% Good	%VeryGood	% Excellent	# Resp.
Topic	0	10	10	40	40	10
Speaker	0	11	22	56	11	9
Length	0	10	20	50	20	10
Relevance	0	0	11	56	33	9
Materials	0	11	44	22	22	9

Table 1-2: Navigating The Tenure Track

	% Poor	% Fair	% Good	%VeryGood	% Excellent	# Resp.
Topic	0	0	20	40	40	5
Speaker	0	0	0	40	60	5
Length	0	20	20	20	40	5
Relevance	0	0	20	40	40	5
Materials	0	0	60	20	20	5

Table 1-3: International Issues

	% Poor	% Fair	% Good	%VeryGood	% Excellent	# Resp.
Topic	0	0	67	33	0	3
Speaker	0	0	67	33	0	3
Length	0	0	67	33	0	3
Relevance	0	0	0	100	0	3
Materials	0	100	0	0	0	1

Table 2-1: Strategies For Closing The Gender Gap

	% Poor	% Fair	% Good	%VeryGood	% Excellent	# Resp.
Topic	0	0	33	33	33	15
Speaker	0	7	40	40	13	15
Length	0	0	31	54	15	13
Relevance	0	0	27	33	40	15
Materials	0	13	40	27	20	15

Table 2-2: Faculty: Mentoring, Advising And Family Work Policies

	% Poor	% Fair	% Good	%VeryGood	% Excellent	# Resp.
Topic	0	0	75	0	25	4
Speaker	0	25	0	75	0	4
Length	0	0	50	50	0	4
Relevance	0	25	25	25	25	4
Materials	0	25	0	75	0	4

Table 2-3: International Engineering Curriculum And Programs: Denmark, Sweden And Canada

	% Poor	% Fair	% Good	%VeryGood	% Excellent	# Resp.
Topic	0	0	33	33	33	3
Speaker	0	0	33	33	33	3
Length	0	0	0	100	0	3
Relevance	0	0	33	33	33	3
Materials	0	0	0	66	33	3

Table 3-1: There is no table for the workshop: Balancing Teaching, Advising, Research and Service as there were no evaluations for it.

Table 3-2: Gender Equity And Classroom Climate

	% Poor	% Fair	% Good	%VeryGood	% Excellent	# Resp.
Topic	0	0	7	53	40	15
Speaker	0	0	7	43	50	14
Length	0	0	7	64	29	14
Relevance	0	0	0	57	43	14
Materials	0	8	17	42	33	12

Table 3-3: Evaluation And New Initiatives

	% Poor	% Fair	% Good	%VeryGood	% Excellent	# Resp.
Topic	0	0	0	50	50	8
Speaker	0	0	25	38	38	8
Length	0	14	29	43	14	7
Relevance	0	0	0	50	50	8
Materials	0	0	13	75	13	8

Table 4-1: International Projects For Promoting Women In Science And Engineering

	% Poor	% Fair	% Good	%VeryGood	% Excellent	# Resp.
Topic	0	0	0	67	33	6
Speaker	0	0	0	17	83	6
Length	0	0	0	67	33	6
Relevance	0	0	17	33	50	6
Materials	0	0	60	0	40	5

Table 4-2: WIE Program Development From Concept Through Funding

	% Poor	% Fair	% Good	%VeryGood	% Excellent	# Resp.
Topic	0	0	14	29	57	7
Speaker	0	0	14	14	71	7
Length	14	0	14	29	42	7
Relevance	0	0	0	43	57	7
Materials	0	14	0	29	57	7

Table 4-3: Success By Design

	% Poor	% Fair	% Good	%VeryGood	% Excellent	# Resp.
Topic	0	0	0	25	75	4
Speaker	0	0	20	60	20	5
Length	0	0	50	25	25	4
Relevance	0	0	25	0	75	4
Materials	0	0	40	0	60	5

Table 5-1: Pre-College Programs & Curriculum: Do They Work?

	% Poor	% Fair	% Good	%VeryGood	% Excellent	# Resp.
Topic	0	0	22	67	11	9
Speaker	10	10	40	30	10	10
Length	0	0	44	44	11	9
Relevance	0	0	22	66	11	9
Materials	0	11	44	33	11	9

Table 5-2: Strategies For Climbing The Academic Career Ladder

	% Poor	% Fair	% Good	%VeryGood	% Excellent	# Resp.
Topic	0	0	50	50	0	4
Speaker	0	0	75	25	0	4
Length	0	0	75	25	0	4
Relevance	0	0	50	50	0	4
Materials	0	25	25	50	0	4

Table 5-3: Feminism, Women's Studies And Engineering: Opportunities And Obstacles

	% Poor	% Fair	% Good	%VeryGood	% Excellent	# Resp.
Topic	0	0	0	44	56	9
Speaker	0	0	22	33	44	9
Length	0	0	33	33	33	9
Relevance	0	0	33	11	56	9
Materials	0	0	57	29	14	7

Table 6-1: International Perspectives: India, Romania And The United Kingdom

	% Poor	% Fair	% Good	%VeryGood	% Excellent	# Resp.
Topic	0	0	20	40	40	5
Speaker	0	0	0	40	60	5
Length	0	0	20	60	20	5
Relevance	0	0	20	40	40	5
Materials	0	0	33	67	0	3

Table 6-2: Training Mentors and Mentees In S&E: Workshop

	% Poor	% Fair	% Good	%VeryGood	% Excellent	# Resp.
Topic	0	0	11	33	55	9
Speaker	0	0	10	40	50	10
Length	0	0	10	70	20	10
Relevance	0	0	11	67	33	9
Materials	0	0	38	25	38	8

Table 6-3: Retention Of Women In Science And Engineering

	% Poor	% Fair	% Good	%VeryGood	% Excellent	# Resp.
Topic	0	0	0	60	40	5
Speaker	0	0	20	40	40	5
Length	0	0	20	40	40	5
Relevance	0	0	0	40	60	5
Materials	0	0	0	60	40	5

Table 7-1: Reexamining The Global Definition Of An Engineer: There is no table for this workshop as there were no evaluations completed for it.

Table 7-2: Mentoring Models: Using Technology

	% Poor	% Fair	% Good	%VeryGood	% Excellent	# Resp.
Topic	0	0	43	57	0	7
Speaker	0	29	43	0	29	7
Length	0	14	29	43	14	7
Relevance	0	0	14	71	14	7
Materials	0	33	17	33	17	6

Table 7-3: Academic Climate And Student Retention

	% Poor	% Fair	% Good	%VeryGood	% Excellent	# Resp.
Topic	0	0	0	29	71	7
Speaker	0	0	0	33	67	6
Length	0	0	0	33	67	6
Relevance	0	0	0	29	71	7
Materials	0	0	0	60	40	5

Table 8-1: WIE Role In Corporate Connections To High Potential

	% Poor	% Fair	% Good	%VeryGood	% Excellent	# Resp.
Topic	0	0	0	67	33	3
Speaker	0	0	33	67	0	3
Length	0	0	0	100	0	3
Relevance	0	0	0	100	0	3
Materials	0	50	0	50	0	2

Table 8-2: Innovative Approaches To Diversity

	% Poor	% Fair	% Good	%VeryGood	% Excellent	# Resp.
Topic	0	0	20	20	60	10
Speaker	0	0	10	60	30	10
Length	0	10	20	40	30	10
Relevance	0	0	10	50	40	10
Materials	0	0	20	50	30	10

Table 8-3: Curriculum Programs: K through Graduate School

	% Poor	% Fair	% Good	%VeryGood	% Excellent	# Resp.
Topic	0	0	17	33	50	6
Speaker	0	0	0	67	33	6
Length	0	0	33	33	33	6
Relevance	0	0	17	50	33	6
Materials	0	0	0	67	33	6

Table 9-1: Affirmative Action Update: Where Are We? Where Are We Going?

	% Poor	% Fair	% Good	% Very Good	% Excellent	# Resp.
Topic	0	0	22	0	78	9
Speaker	0	0	25	38	38	8
Length	11	11	22	33	22	9
Relevance	0	0	11	33	56	9
Materials	0	0	22	33	44	9

** NOTE: The percentages in each table (Table 1-1 through Table 9-1) may not add to exactly 100% due to rounding in the calculations.*

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 work force.

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

US Commitment to Women in Engineering

Collaboration and Communication

Leadership and Professional Development

Entrepreneurial and Self-Sustaining Organization

Celebration of Diversity

D. 1996-97 WEPAN Officers and Board of Directors

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Susan Staffin Metz, *President*
Director, Women in Engineering
Stevens Institute of Technology

Cinda Sue Davis, Ph.D., *Vice President*
Director, Women in Science and Engineering
University of Michigan

Karen L. Watson, Ph.D., *Treasurer*
Associate Dean of Engineering
Texas A&M University

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

Suzanne G. Brainard, Ph.D.
WEPAN Past-President
Director, Center For Women in Science and Engineering
University of Washington

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Carnegie Mellon University

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National Recruiting Organization
IBM Corporation

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Engineering
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Intel Corporation

Suzanne Scheff
Director WIE Program
University of Kentucky

Lewis E. Shumaker
Manager, College Relations & Recruitment
DuPont Company

Marcia R. Simpson
Technology Leader
Mobile Corporation

Jill S. Teitjen, P.E.
Director, Women in Engineering
University of Colorado, Boulder

Susan Wood, Ph.D.
Vice President and Director
Westinghouse Savannah River Company

Doreen S. Yochum
Chief Administration Officer
AT&T Labs

1998 WEPAN CONFERENCE

Evaluation

Personal Data (optional)

Name: _____ Telephone: _____

Institution/Organization: _____ Email: _____

PLEASE COMPLETE THIS SURVEY BEFORE LEAVING THE CONFERENCE AND RETURN IT TO THE RECEPTION DESK.

Poor Fair Good Very Good Excellent

Quality of Plenary Sessions:

Perspectives From Executive Women on Our Future,

Constance Rice, Ph.D., Sally Jewell and Deborah Willingham

Global Challenges for Women in Engineering,

Hans Peter Jensen, Ph.D. and Jane Grimson, Ph.D.

Preparation for The Global Workforce,

Martha Krebs, Ph.D. and Shirley Malcom, Ph.D.

Abet 2000 And Beyond,

George D. Peterson, Ph.D. and Ed Parrish, Ph.D.

Conference Site:

Quality of Meeting Rooms

Quality of Food

Quality of Location

Hotel Accommodations, name of hotel _____

Conference Registration:

Registration Materials

Organization

Ease of On-Site Registration/Locating Rooms

Time of Day

Poster Sessions:

Organization

Presentation/Materials

Length/Time

Relevance

WEPAN Business Meeting

WEB Browsing

Sunday Night Reception with Seattle Poet Laureate,

Mona Lake Jones, Ph.D.

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 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 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"/>

Tuesday, Session 9 (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.

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

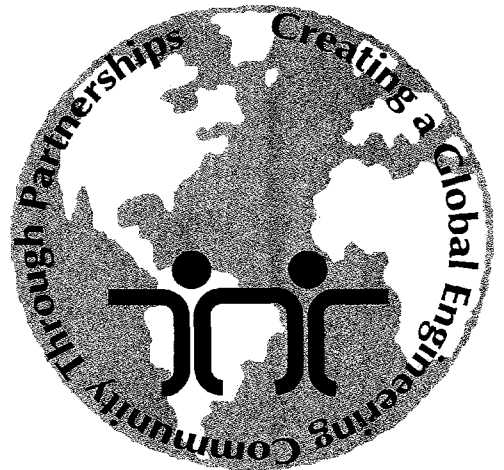
In your opinion, who were the two best speakers?

In your opinion, what were the two best sessions?

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

Do you have any other comments? _____

1998 NATIONAL
W E P A N
CONFERENCE



CREATING A
G L O B A L
ENGINEERING
COMMUNITY
T H R O U G H
PARTNERSHIPS

June 14-16, 1998

Bell Harbor International Conference Center
Seattle, Washington

WEPAN, Women in Engineering Programs & Advocates Network, a non-profit educational organization, was founded in 1990 in order to effect a positive change in the engineering infrastructure, in which the academic and social climate becomes conducive to women in engineering and the supporting sciences. To do this, technical assistance and training are offered to colleges and universities to initiate or expand women in engineering and science programs focused on recruitment and retention at the pre-college, community college, undergraduate and graduate levels. WEPAN has a membership of over 500 and is led by a twenty-three person Board of Directors from academe and industry.

CONFERENCE SPONSORS

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American Gas Association

AT&T Foundation

Corning Inc.

The Dow Chemical Company

Dupont deNemours & Company, Inc.

IBM Corporation

Northrup-Grumman Corporation

Microsoft Corporation

Mobil Corporation

NASA

Texaco

Texas Utilities

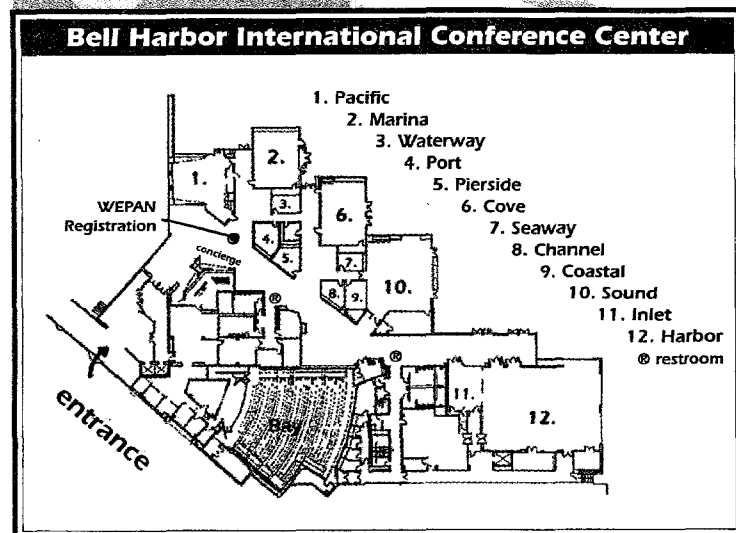
U.S. Department of Energy

WELCOME to the ninth National Women in Engineering Conference sponsored by WEPAN, Women in Engineering Programs & Advocates Network. On behalf of the WEPAN Conference Committee, we are delighted that you have chosen to attend the 1998 Conference in Seattle. The program offers a wide variety of speakers and topics, and we hope you will find the discussions to be engaging. One of the highlights of the conference is meeting with colleagues, renewing old acquaintances and meeting new people. We hope you will take advantage of the breaks, the meal times and free evenings to spend time with one another.

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

Suzie Laurich-McIntyre, Ph.D.

1998 WEPAN Conference Chair



CONFERENCE REGISTRATION

Conference registration, located in the foyer of the Bell Harbor Conference Center, will be open Sunday from 8:00 a.m. to 5:00 p.m., Monday from 7:30 a.m. to 5:00 p.m. and Tuesday from 8:00 a.m. to 11:00 a.m.

At registration you will receive the conference program and name tag. Each registrant will receive a tote bag compliments of AT&T, a pen and calculator from Alcoa and a name badge holder from IBM.

All conference sessions and meals will be held at the Bell Harbor Conference Center and will require the official conference name tag for admission.

Your registration fee includes three continental breakfasts, three buffet lunches and the Sunday evening reception. Additional meal tickets for spouses and guests may be purchased at the registration desk.

POSTER SESSIONS

The POSTER SESSIONS will be held in the Marina Room on Sunday, June 14. The posters will be set up by 10:00 am and will remain up until 5:00 pm. Two time periods have been set aside for presenters to meet and discuss their posters. These times are 10:00-10:40 am and 4:20- 5:00 pm. Please visit the Marina Room to learn more about engaging projects and programs and meet the individuals leading their successes.

WEPAN BUSINESS MEETING

The WEPAN Business Meeting will be held on Monday, June 15, from 1:40 to 2:40 p.m. The annual meeting will provide members with an update of WEPAN business, initiatives, and opportunities to become involved in the organization. Topics include: 1999 WEPAN Conference, WEPAN Climate Study, WEPAN Website and a brief review of finances and elections.

CONFERENCE PROCEEDINGS

Each full registrant at the 1998 WEPAN Conference will be mailed a copy of the conference proceedings as part of 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: (765) 494-5387, Fax: (765) 494-9152, Email: wiep@ecn.purdue.edu

WEB BROWSING

The PIERSIDE ROOM has been set up to allow you to view up and coming websites of interest.

WEPAN's new website, sponsored by the AT&T Foundation, is making its debut at the conference and promises an expanded resource for users. New areas will include an update on WEPAN events and projects, a comprehensive bibliography, funding resources, and WISE program profiles. Information about WEPAN products and services and programs as well as links to other organizations will be available.

Web sites for MENTORNET and the National Academy of Engineering's Celebration for Women in Engineering will also be highlighted.

Plenary Speakers

OPENING PLENARY

Sunday, June 14, 11:00 am - 12:15 pm

PERSPECTIVES FROM EXECUTIVE WOMEN ON OUR FUTURE

Constance W. Rice, Ph.D.

Senior Vice Chancellor, Seattle Community Colleges



Dr. Constance W. Rice is a graduate of Queens College in Flushing, New York, where her major areas of study were Anthropology and Sociology. She earned her master's degree in Public Administration and her doctor of philosophy degree in Higher Education Administration from the University of Washington. Most recently, Dr. Rice served as President of North Seattle Community College, and is now Senior Vice Chancellor for the four-campus Seattle Community College District.

Prior to her leadership at the Seattle Community Colleges, Dr. Rice held administrative and faculty positions spanning 15 years in several sectors of higher education in Washington State. With a special interest in technology and educational equity, Dr. Rice directed establishment of an innovative computer integrated curriculum program called CITIES - the Center for Intercultural Technologies - in partnership with the Microsoft Corporation.

Dr. Rice has served as a tireless activist and civic volunteer for many years in the Seattle area. Her major volunteer interests focus on the greater metropolitan Seattle area and the eradication of hunger, cancer, homelessness and discrimination. Dr. Rice is a member of several non-profit boards, including the Washington Software Foundation, Seattle Art Museum, Seattle Foundation, Seattle Chapter of Links and the Benefit Guild. Additionally, she chaired the acclaimed 1995 Northwest International Women's Conference.

Sarah M. R. (Sally) Jewell

Executive Vice President, Washington Mutual Bank



Sally Jewell is Executive Vice President of Washington Mutual Bank, and President and CEO of its Western Bank Division. Prior to joining Washington Mutual, she spent fourteen years with Rainier Bank, Security Pacific Bank, and West One Bank, in the areas of energy banking, national accounts, credit administration, head of business banking activities in Washington, and finally as president and chief executive officer of West One Bank, Washington.

Before pursuing a career in banking, Mrs. Jewell was an engineer for Mobil Oil Corporation in Oklahoma and Colorado. She graduated from the University of Washington with a degree in Mechanical Engineering.

Mrs. Jewell serves on the boards of Recreational Equipment, Inc., Washington Water Power, and Premera, parent company of Blue Cross of Washington and Alaska. In addition, she is an active participant in community activities including leadership positions on several non-profit boards. These include the Alliance for Education, the Seattle-King County-Snohomish County YWCA, the Mountains to Sound Greenway Trust and several others. She is also on advisory committees for the University of Washington's College of Engineering, School of Business, and Women in Engineering Initiative.

Deborah N. Willingham

Vice President, Enterprise Customers, Microsoft Corporation



As vice president, Enterprise Customers, Deborah Willingham is responsible for worldwide strategy for selling, marketing, and supporting Microsoft's products and services to large organizations. The Enterprise Customer Unit directs large account, reseller, and systems integrator sales and systems engineering personnel, as well as Microsoft's consulting and enterprise technical support resources. She also has line management responsibility for North American technical support delivery to the enterprise, including Premier and Business Systems products support.

Willingham, who joined Microsoft in 1993, has over 18 years experience in the computer industry. She was vice president, Support for Microsoft from 1993-96. Under her direction, Microsoft broadened its spectrum for support choices, expanded its electronic information and services, and built a comprehensive mission and critical support infrastructure.

Prior to joining Microsoft, Willingham was with IBM Corporation where she held a variety of senior management positions in hardware manufacturing and development. Her responsibilities spanned many technical functions and products including high-end storage and retrieval devices, system printers, tape and optical storage devices, and mid-range application business systems.

Plenary Speakers

INTERNATIONAL PLENARY Sunday, June 14, 5:00 pm - 6:00 pm

GLOBAL CHALLENGES FOR WOMEN IN ENGINEERING

Hans Peter Jensen, Ph.D.

Rector, Technical University of Denmark
Lyngby, Denmark



Dr. Hans Peter Jensen received his MSc in chemistry from the University of Copenhagen and his doctor's degree from Chalmers University of Technology in Gothenburg, Sweden. He also holds an honorary doctor's degree from Shenandoah University in Winchester, Virginia. Through his entire professional career he has been attached to the Technical University of Denmark but has spent several periods as visiting professor at University of Oregon and at Chalmers University of Technology. His major scientific interest has been polarized light and its use within phase modulation spectroscopy, but since becoming a rector in 1986 he has been more involved in work with science and educational policies. He is chairman

of the UNESCO International Committee on Engineering Education and a member of Higher Education and Research Committee under the Council of Europe. Dr. Jensen has been a member of the Danish Natural Science Research Council and in connection with that a member of and chairman for Collaborative Research Grants Program Panel under NATO Scientific Affairs Division. Dr. Jensen is a member of the Board of the Fulbright Commission in Denmark, and is serving on a number of national boards as a consequence of his rectorship.

Dr. Jensen has published approximately 50 scientific papers in international journals and participates in the standing national and international debate on educational and research policies.

Professor Jane Grimson, Ph.D.

Dean, Faculty of Engineering and Systems Sciences
Trinity College, Dublin, Ireland



Professor Jane Grimson graduated in Computer Engineering in 1970 from Trinity College Dublin. Following MSc and Ph.D. degrees from the Universities of Toronto and Edinburgh, respectively, she returned to Trinity as a lecturer in 1980. Professor Grimson is currently an Associate Professor of Computer Science and Dean of the Faculty of Engineering and Systems Sciences. Her main areas of research are in database systems and health telematics. Professor Grimson is a Chartered Engineer, Fellow of the Institution of Ireland, of Trinity College, of the Irish and British Computer Societies and of the Royal Academy of Medicine, and a member of the Irish Council for Science, Technology and Innovation, the IEEE and ACM.

PLENARY

Monday, June 15, 11:30 am - 12:30 pm

PREPARATION FOR THE GLOBAL WORKFORCE

Martha Krebs, Ph.D.

Director, Office of Energy Research



Dr. Martha Krebs was nominated by President Clinton in 1993 to be the Director of the Office of Energy Research (OER) in the Department of Energy (DOE). As Director, Dr. Krebs manages one of the largest sponsors of basic research in the federal government. In addition she is the Department's Science and Technology Advisor, advising the Secretary on science and technology issues that cut across DOE programs, including transfer of technology and science education, training activities and management of the Department's laboratories.

Prior to assuming her current position, Dr. Krebs was Associate Laboratory Director for Planning and Development at the Lawrence Berkeley Laboratory. While there, she established the Laboratory's Center for Science and Engineering Education which provides Collaborative research experience at the Laboratory for students, teachers and University of California faculty.

Dr. Krebs earned an A.B. and Ph.D. in Physics from the Catholic University and is a member of Sigma Xi and Phi Beta Kappa. She was also a National Science Foundation Fellow.

PLENARY

Monday, June 15, 11:30 am - 12:30 pm

PREPARATION FOR THE GLOBAL WORKFORCE

Shirley M. Malcom, Ph.D.

Head of the Directorate for Education and Human Resources Programs, AAAS



Dr. Shirley Malcom is Head of the Directorate for Education and Human Resources Programs of the American Association for the Advancement of Science (AAAS). The directorate includes AAAS programs in education, activities for underrepresented groups, and public understanding of science and technology. Dr. Malcom was head of the AAAS Office of Opportunities in Science from 1979 to 1989. Between 1977 and 1979, she served as program officer in the Science Education Directorate of the National Science Foundation (NSF). Prior to this, she held the rank of assistant professor of biology, University of North Carolina, Wilmington. Other work experience include two years as a high school science teacher.

Dr. Malcom received her doctorate in ecology from The Pennsylvania State University; master's degree in zoology from the University of California, Los Angeles; and bachelor's degree with distinction in zoology from the University of Washington. In addition she holds seven honorary degrees.

Dr. Malcom serves on several boards, including the American Museum of Natural History, Carnegie Corporation of New York, and National Center on Education and the Economy. She serves as a trustee of Adelphi University and as a Regent of Morgan State University. In addition she has chaired a number of national committee addressing education reform and access to scientific and technical education, careers and literacy. In 1995 Dr. Malcom was elected a fellow of the America Academy of Arts and Sciences.

She was appointed by President Clinton and confirmed by the Senate as a member of the National Science Board, and named to the President's Committee of Advisors on Science and Technology.

PLENARY

Tuesday, June 16, 8:30 am - 9:30 am

ABET 2000 AND BEYOND

George D. Peterson, Ph.D.

Executive Director, ABET



Dr. George D. Peterson is the Executive Director of the Accreditation Board for Engineering and Technology, Incorporated (ABET). He is the former Section Head of Faculty and Teaching Development, Division of Undergraduate Education, at the National Science Foundation (NSF) in Washington, District of Columbia, and from 1988 until 1989 he served at the NSF as Program Director in the Undergraduate Science, Engineering and Mathematics Education Division. Dr. Peterson was chairman, Department of Electrical Engineering at the U.S. Naval Academy, Annapolis, Maryland, from 1983 to 1988. He was the Assistant Vice President for Academic Affairs and Professor of Electrical Engineering at Morgan State University in Baltimore, Maryland, from 1988 to 1993.

Dr. George Peterson served as an officer in the United States Air Force for over 21 years, retiring with the rank of Lieutenant Colonel. During his Air Force career, he was awarded the Bronze Star Medal, The Meritorious Service Medal (with Gold Star Device), and the Air Force Commendation Medal.

Dr. Peterson received his B.S. from North Carolina A&T State, his M.S. from the Air Force Institute of Technology and his Ph.D. from the University of Illinois, all in electrical engineering.

Edward A. Parrish, Sc.D.

President, Worcester Polytechnic Institute

Dr. Parrish received the B.E.E., M.E.E. and Sc.D. degrees in electrical engineering from the University of Virginia, Charlottesville, VA. Prior to beginning his engineering education he served in the U.S. Air Force for four years. Dr. Parrish has been a faculty member at the University of Virginia, Vanderbilt University and since 1995 President of WPI and Professor of Electrical and Computer Engineering.

Dr. Parrish is a recognized authority on engineering education and has served in a variety of capacities within engineering accreditation. He has served on the Engineering Accreditation Commission of ABET since 1989.

Dr. Parrish is a Fellow of IEEE and has held numerous positions at the national level. He has published more than 100 papers in the area of pattern recognition and image processing. He is a member of the honor societies Tau Beta Pi, Eta Kappa Nu and Sigma Xi and is listed in Who's Who in Engineering as well as many other such registries.

WEPAN Award Categories

The Founders Award honors a WEPAN member who exemplifies the spirit of the WEPAN founders through her/his extraordinary service to the organization. The award is named for the three founders of WEPAN, Inc. - Suzanne G. Brainard, Jane Zimmer Daniels and Susan Staffin Metz.

Selection Criteria:

- WEPAN membership
- individual efforts have significantly advanced the goals of WEPAN
- extraordinary service to the WEPAN organization

1998 Award sponsored by IBM

The Betty Vetter Award for Research recognizes notable achievement in research related to women in engineering. The award is named in memory of Betty M. Vetter, long time director of the Commission on Professionals in Science and Technology, who served as the first treasurer of WEPAN, Inc. and was a founding member of the Board of Directors.

Selection Criteria:

- research that is a notable achievement related to women in engineering
- research results have been published or presented at a professional conference (preference will be given to most recent research)
- research has relevance to Women in Engineering Programs

1998 Award sponsored by WEPAN Founders

The Women in Engineering Program (WIEP) Award recognizes a new program or major recent advances in an existing program which could be used as a model by other institutions. Multiple awards may be given.

Selection Criteria:

- represents new or significant advances to the institution's WIEP
- has the potential to serve as a model for other WIE programs
- demonstrates improvements in the educational environment for women in engineering
- gives professional guidance to student and/or faculty who seek engineering and science as a career or profession

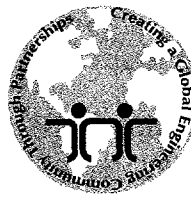
1998 Award sponsored by Mobil Oil and Dow Chemical

The Breakthrough Award recognizes and honors an employer of women engineers for creating a work environment which enhances their career success. The name of the award signifies the ability of an employer to "break through" the artificial barriers which prevent women engineers from attaining their full potential.

Selection Criteria:

- support the mission of WEPAN "to be a catalyst for change that enhances the success of women in the engineering professions"
- women engineers are employed at many levels in the corporation/agency
- evidence of written policies or established practices which facilitate the full participation and career advancement of women in engineering

1998 Award sponsored by Corning



1998 NATIONAL WEPAN CONFERENCE

Conference Program

Saturday, June 13

8:00 am - 12:00 pm

NAMEPA Board Meeting : Edgewater Hotel

9:00 am - 2:00 pm

WEPAN Board Meeting: Edgewater Hotel

2:00 pm - 5:30 pm

WEPAN/NAMEPA Facilitated Meeting: Edgewater Hotel

5:30 pm - 6:30 pm

WEPAN/NAMEPA Board Reception: Edgewater Hotel

Sunday, June 14

8:00 am - 5:00 pm

REGISTRATION: Bell Harbor International Conference Center

8:00 am - 12:00 pm

NAMEPA Board Meeting: Edgewater Hotel

8:30 am - 11:00 am

BREAKFAST: Bell Harbor International Conference Center

9:30-10:30

WEPAN INTEREST GROUPS

WOMEN IN ENGINEERING: RETAINING WOMEN IN THE WORKPLACE..Sound
Paula Leventman, Ph.D., Assistant Dean of Engineering, Northeastern University

COLLECTING AND ANALYZING RETENTION DATA AT YOUR INSTITUTION....Cove
Suzanne Scheff, Director, Women in Engineering Program, University of Kentucky

10:00 am - 10:40 am

POSTER SESSION..... Marina

10:45 am - 11:00 am

WELCOME ADDRESS..... Bay

Susan Staffin Metz, President, WEPAN

Denice D. Denton, Ph.D., Dean, College of Engineering, University of Washington

11:00 am - 12:15 pm

OPENING PLENARY Bay

PERSPECTIVES FROM EXECUTIVE WOMEN ON OUR FUTURE

Constance Rice, Ph.D., Senior Vice Chancellor, Seattle Community Colleges

Sally Jewell, Executive Vice President, Planning and Administration, Commercial

Banking Group, Washington Mutual, Incorporated

Deborah Willingham, Vice President, Enterprise Customers, Microsoft Corporation

12:30 pm - 1:30 pm

LUNCH: Bell Harbor International Conference CenterHarbor

1:40 pm - 2:55 pm

Session 1

1. CORPORATE DIVERSITY PROGRAMSBay

Moderated by Harold C. Shields, Manager, Employment Strategies, Recruiting and Diversity, Alcoa

Lewis Shumaker, Manager, College Relations and Recruitment, DuPont Company and LaVonne Dorsey, Diversity Recruiting Specialist in Strategic Recruiting, Microsoft Corporation

The panel will focus on diversity and how it is linked with business. Panelists will reveal the processes used in developing a diversity strategy that is incorporated in all of the human resource practices. Solid strategies and tactics that others can use to develop or improve their diversity efforts in college relations and other activities will be discussed.

2. NAVIGATING THE TENURE TRACKSound

Moderated by Karen L. Tichenor, Assistant Dean, Executive Director of WISEM, Colorado School of Mines

Achieving Tenure

Nina W. Brown, Ed.D., College of Engineering Technology, Old Dominion University

The presentation will focus on understanding both the formal and informal processes that guide tenure decisions at their university. Guidelines that protect non-tenured faculty, the appeal process, the review process, presentation of credentials and common mistakes made by faculty seeking tenure will be discussed.

Navigating the Tenure Track Through Effective Collaboration

Pamela R. McCauley-Bell, Ph.D., Department of Industrial Engineering and Management Systems, and Lesia Crumpton, Ph.D., Department of Industrial Engineering, University of Central Florida

The presentation will discuss how to initiate and nurture collaborative relationships on a departmental, university wide, nationwide, and worldwide level. Effective collaboration is a powerful tool that can create synergy in research, teaching and service activities. Ways to establish status as an individual capable of independent research and collaboration will be discussed as well as the pitfalls in collaborations.

Speaking Out For Justice

Augustine Pounds, Ph.D., President, AAUW Legal Advocacy Fund

The focus of this presentation is equity for women in higher education, coupled with the challenges women students, faculty and administrators face when confronted with sex discrimination.

3. INTERNATIONAL ISSUESCove

International Interest Group Meeting

Suzanne G. Brainard, Ph.D., Director, Women in Engineering Initiative and Affiliate Associate Professor in Technical Communication and Women Studies

The purpose of this session is to discuss WEPAN's commitment and long-term plans for an international strategy for increasing the participation of women in engineering globally. A brief overview of the WEPAN Working Session held April 27 and 28 in London will be presented, and a call for increased participation of countries all over the world will be made.

3:05 pm - 4:20 pm

Session 2

1. STRATEGIES FOR CLOSING THE GENDER GAPBay

Moderated by Nancy M. Tooney, Ph.D., Associate Dean of Engineering and Applied Sciences, Polytechnic University

Predictors of Women's Entry Into Engineering: Why Academic Preparation is Not Sufficient

Stephanie Blaisdell, Director, WISE Program, Arizona State University Social cognitive theory proposes that low self-efficacy is the primary reason women continue to be underrepresented in engineering. The present study used a social cognitive framework and structural modeling to determine the factors predicting entry into engineering majors. The results of this two-year study and the implications for designing effective programs to increase the number of women entering engineering will be discussed.

Spatial Visualization: Theoretical and Empirical Closing of the Gender Gap

Richard Devon, Ph.D., Director, The Pennsylvania Space Grant Consortium and Associate Professor, Engineering Design and Graphics, The Pennsylvania State University

Data from first-year engineering students using a modified version of the Mental Rotations Test are used for two purposes. First, it was found that an intervention using a solid modeling-based curriculum resulted in a considerable closing of the gender gap for this population. Second, using a mixture of distributions approach showed that, within the ability groups, there is no ability gender gap. The gender gap is represented by different gender proportions within the ability groups.

An Interactive CD ROM to Sensitize Engineering Students to Diversity Issues

Stephanie Blaisdell, Director, WISE/Program and Russell Jones, Arizona State University

In order to address diversity issues that emerge in engineering student work teams, the National Science Foundation's Foundation Coalition commissioned the development of an interactive CD ROM. Arizona State University's Women in Applied Science and Engineering (WISE) Program is spearheading this collaborative effort. The development process will be discussed and the program previewed during the presentation.

2. FACULTY: MENTORING, ADVISING AND FAMILY WORK POLICIESSound

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

Collected Wisdom: Lessons Learned in the Trenches

Carol A. Dickson, Ph.D., Associate Professor, College of Tropical Agriculture and Director, Mentoring Program, University of Hawaii

The Women Faculty Mentoring Program was designed to support women in the development of their academic careers, thereby ensuring institutional change through their retention at the University of Hawaii. Utilizing workshops, seminars and one-on-one mentoring, the program supports the professional development of women by helping them: become successful scholars and teachers, learn to develop harmonious and collaborative unit and campus relationships, informing them about the University of Hawaii system and how it operates.

The Family-Friendly University: What Are the Questions, Where Are the Answers?

Connie R. Borowicz, Assistant Professor, Department of General Studies, Milwaukee School of Engineering

Several social trends will be considered which motivate a reexamination of university family-work policies. While there are barriers to these initiatives, the cost/benefit ratio of their investment accounting for recruitment, retention, and morale are favorable. The experience of those organizations which have implemented family-friendly changes will be examined, and "first steps" for policy implementation will be discussed.

Conference Program

Students in Crisis

Moyra McDill, Ph.D., P.Eng., Associate Professor, Mechanical and Aerospace Engineering, Carleton University, Canada

The learning curve for professors in counseling and advocacy roles is very steep. Students in crisis present problems such as clinical depression, illegal drug use, stalking, unexpected pregnancy, suicide, abortion, ethnic and family conflicts. Some techniques learned for accommodating a large counseling-advocacy role while still carrying out regular teaching duties and technical research are shared. Strategies for coping with the extraordinary load of a counseling-advocacy position, including identifying existing resources, dealing with legal issues, and knowing your own limits are presented. Several cases representing a composite of typical problems will be used to illustrate how these strategies can be applied in practice.

3. INTERNATIONAL ENGINEERING CURRICULUM AND PROGRAMS: DENMARK, SWEDEN AND CANADACove

Moderated by Monique Frize, NSERC/Norrel Joint Chair in Women in Science and Engineering, University of Ottawa and Carleton University, Canada

Export Engineering

Prof. Knud Holm Hansen, Vicehead of Export Engineering Department, Engineering College of Copenhagen, Denmark

The Export Engineering Program combines engineering economics and marketing, communication, foreign languages, and classical classroom teaching alternates with interdisciplinary project work. The program, which takes four and a half years, including traineeship, seems attractive to both men and women with nearly 50 per cent of the students enrolled in the program being women.

What about Careers? A Comparison of Opinions and Opportunities of Careers Between Female and Male Engineers in Sweden

Inger Grufman, Civilingenjors Forbundet, Swedish Association of Graduate Engineers, Sweden

Do female and male engineers look upon the concept of career in the same way? Have their opinions changed during the last ten years? Is there the same career gap for female and male engineers? Do female and male engineers share parent leave and house work equally in Sweden? Some answers are given in the presentation.

Mentor Program at the University of Manitoba

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

In 1992, the faculty of Engineering at the University of Manitoba developed a formal mentoring program for Women in Engineering. Initially, the mentoring program was based on a one-to-one match; a mentor with a mentee. Personal interests and hobbies served as a major component in the matching process. Today the program has evolved into a "cluster" format. In addition to the present format of the program and the evaluation processes used in this transition, the changes and the decision points encountered in the transition from the initial program to today's program will be described.

4:20 pm - 5:00 pm

POSTER SESSIONMarina

5:00 pm - 6:00 pm

INTERNATIONAL PLENARYBay

GLOBAL CHALLENGES FOR WOMEN IN ENGINEERING

Hans Peter Jensen, Ph.D., Rector, Technical University of Denmark, Lyngby, Denmark,

Jane Grimson, Ph.D., Dean, Faculty of Engineering and System Sciences and Associate Professor of Computer Science, Trinity College, Dublin, Ireland

6:00 pm - 7:00 pm

RECEPTIONHarbor

Mona Lake Jones, Ph.D., Seattle Poet Laureate, Readings

Monday, June 15, 1998

7:30 am - 9:00 am

BREAKFAST: Bell Harbor International Conference Center

7:30 am - 5:00 pm

Registration: Bell Harbor International Conference Center

8:30 am - 9:45 am

Session 3

1. BALANCING TEACHING, ADVISING, RESEARCH AND SERVICE..Cove

Moderated by Karen Butler, Ph.D., Assistant Professor, Department of Electrical Engineering, Texas A&M University

Patricia D. Daniels, Ph.D., Associate Dean, School of Science and Engineering, Seattle University, *Deirdre Meldrum, Ph.D.*, Associate Professor, Department of Electrical Engineering, University of Washington, *Patricia F Mead, Ph.D.*, Assistant Professor, Department of Mechanical Engineering, University of Maryland

Panelists will discuss balancing expected responsibilities of an academic appointment. Each panelist will describe her university's expectations, approach, extra demands as a female faculty member and tips and suggestions for successfully balancing the job roles as required. Their individual career philosophies, typical work schedules and obligations, time management and frustrations and rewards will be presented.

2. GENDER EQUITY AND CLASSROOM CLIMATEBay

Moderated by Jane Z. Daniels, Ph.D., Director, Women in Engineering Program, Purdue University

A Campus Climate Survey in the College of Engineering at Texas A&M University

Karan Watson, Ph.D., Associate Dean of Engineering, Texas A&M University

In the Fall of 1994 the Women in Engineering, Science, and Technology (WEST) program at Texas A&M University, in conjunction with Women's Studies, Department of Management, and the Department of History, received an award from the National Science Foundation (NSF) from the Model Projects for Girls and Women. There were several components included in the grant. A campus climate survey was one component which will be addressed in this presentation. Questions were written in an attempt to tap into important constructs affecting men and women in the classroom and career. Issues such as self-identity, self-esteem, motivation, mentoring/support, ability, family/career balance, competitiveness, classroom behavior, and general stereotyping, were explored through the survey.

Changing the Classroom Climate through Training in Gender Equitable Practices

Laura Ellen Tubbs, Ph.D., Department of Chemistry, Rochester Institute of Technology

Gender equitable classroom practices contribute to a classroom climate which encourages the retention of women with an interest in math, science and engineering careers. Training in gender equitable practices is one of the intervention strategies used in Project EDGE. Project EDGE is a three-year project sponsored by the National Science Foundation. College faculty, high school teachers and counselors involved in the project participated in an intensive training program designed to help identify gender inequitable practices and to replace them with gender equitable strategies. A description of the training program, follow-up support strategies and evaluation will be presented.

Classroom Climate Workshop on Gender Equity: One Model of Development
Emily Wadsworth, Ph.D., Assistant Director, Women in Engineering Programs, Purdue University

A model for interactive theater workshops dealing with the issue of gender equity will be presented. This includes the process of: reviewing the literature; assessing the classroom climate; writing scripts; creating scenarios; constructing measures; presenting and evaluating workshops. Indications of how aspects of this model program have been incorporated in gender equity workshops at other engineering institutions will also be discussed.

6APT: Teaching Gender Equity for and with High School Computer Science
Allan Fisher, Ph.D., Associate Dean, School of Computer Science, Carnegie Mellon University

The Carnegie Mellon Summer Institute for Computer Science Advanced Placement Teachers (6APT) delivers integrated instruction in gender equity and the C++ programming language. The goal of 6APT is to engage teachers, even those with little initial interest in gender equity, in a nationwide effort to increase girls' participation in high school computer science.

3. EVALUATION AND NEW INITIATIVESSound

Moderated by Cinda-Sue Davis, Ph.D., Director, Women in Science and Engineering Program, University of Michigan

A Comprehensive Evaluation of Women in Engineering Programs

Christine M. Cunningham, Ph.D., Project Director, Goodman Research Group, Inc.

Approximately 60 institutions currently have formal women in engineering (WIE) programs; yet, to date, no systemic effort has been made to evaluate the effectiveness of the programs as a class. This conference presentation will outline the first controlled, cross-institutional, longitudinal evaluation of such programs.

Science, Diversity and Community

Jacqueline Ross, Ph.D., Director, Women's Studies Consortium, University of Wisconsin System and *Gloria Rogers, Ph.D.*, Vice President for Institutional Research, Rose Hulman Institute of Technology

The purpose of the presentation is to describe the feminist-based strategies, evaluation methods and results of the University of Wisconsin's Women and Science Program which developed from an NSF-funded comprehensive project, "Science, Diversity, and Community." Lesson learned will be shared in an effort to encourage others to adopt a similar model at their home institutions.

Women in Engineering Alumnae Study: What Happens after College

Paula G. Leventman, Ph.D., Associate Dean and Director, Women in Engineering, Northeastern University

Engineering alumnae of a large urban university were surveyed to understand the sources of career satisfaction and dissatisfaction among working women engineers. High percentages of our respondents experience a high degree of job satisfaction because they find their work challenging, and feel well rewarded for their efforts. However, a majority had some degree of difficulty balancing career and family responsibilities, finding mentoring on the job, and being included in a male dominated upwardly mobile colleague-loop on the job.

10:00 am - 11:15 am

Session 4

1. INTERNATIONAL PROJECTS FOR PROMOTING WOMEN IN

SCIENCE AND ENGINEERINGCove

Moderated by Susan Staffin Metz, Director, Office of Women's Programs, Stevens Institute of Technology and President, WEPAN

Global Linkages for Science Literacy Project: Reports from the Field on Promising Strategies for Educating Girls and Women in Science, Mathematics, and Technology

Yolanda S. George, Deputy Director, EHR, AAAS

At the Fourth World Conference on Women in 1995, a coalition of over 85 organizations joined together to put forward a new vision of gender and SMTE to influence the global policy agenda, to highlight the roles of women in S&T and to mobilize NGO action. The Platform for Action, the policy document of the Conference, identifies science literacy, education and training as important

areas for action. This paper will focus on a study carried out by AAAS and IWTC to determine how these recommendations have been translated into action since the Conference in 1995.

The Role of African Women Scientists and Engineers in Development

Judi Wangalwa Wakhungu, Ph.D., Assistant Professor, Science, Technology and Society and Director, WISE Institute, The Pennsylvania State University

Worldwide there are serious obstacles to girls and women receiving science and engineering education and pursuing careers in these fields. However, by region, the lowest participation of women in the sciences and engineering occurs in Africa. Common characteristics which contribute to the persistent under-representation of women in these fields include gender stereotyping of young children and textbooks that do not relate science to everyday experiences. Another common characteristic is parental preference favoring the education of boys over girls due to both cultural reasons and economic constraints.

Benefits of International Exchange Programs for Women in Engineering

Dipl.-Ing. Ingrid Doberenz, Hochschule Mittweida, Germany

International education and technical exchange programs in engineering offer expanded opportunities for students to participate in the globalization of engineering. Experiences with international engineering exchange programs will be presented and mechanisms for encouraging the increased participation of female students will be addressed.

2. WIE PROGRAM DEVELOPMENT FROM CONCEPT THROUGH

FUNDINGSound

Moderated by David Targan, Ph.D. Associate Dean of the College, Adjunct Assistant Professor of Physics, Brown University

Women in Engineering Programs: The First Year of Operation

Susan A. Linnemeyer, Ph.D., Director, Women in Engineering, University of Illinois

What are the essential components for a newly initiated Women in Engineering Program? This presentation will focus on "what is feasible and what is not" when you are faced with a limited budget, staff, and resources. The experiences of directors of programs that are less than three years old will be shared. A handbook of resources and exemplary practices will be distributed.

Writing Your First Proposal

Jane Z. Daniels, Ph.D., Director, Women in Engineering Program, Purdue University

Participants will first answer the question, "Do I have to write a proposal". If the answer is yes, participants will be assisted in developing an outline, writing text, preparing a budget, and determining a strategy for where to submit their proposal. They will also consider tactics, before submission, to improve their chances for writing a fundable proposal. Handouts will include information of 1) identifying the best sources for potential funding; 2) understanding NSF and FIPSE review criteria; 3) the differences between proposals to government agencies, corporations, and private foundations; 4) characteristics of successful grant writers, and 5) a structured worksheet for writing their first proposal.

3. SUCCESS BY DESIGNBay

Moderated by Susan L. Burkett, Ph.D., Assistant Professor, Boise State University

Success Strategies for Emerging Engineers and Scientists: A Workshop for Developing a Survival Skills and Ethics Program

Pamela R. Lucas, Program Leader, Princeton Plasma Physics Laboratory

In order for engineering students to develop into accomplished professionals in the new millennium, a wide range of skills are necessary. The development of formal mechanisms for assisting future engineers in acquiring these skills is encouraged. This workshop will present an overview of a typical Survival Skills and Ethics Program. Participants will be given practical information regarding the development, implementation, budgeting and evaluation of programs at their home institutions, as well as securing institutional support from faculty and others.

11:30 am - 12:30 pm

PLENARYBay

PREPARATION FOR THE GLOBAL WORKFORCE

Martha Krebs, Ph.D., Director, Office of Energy Research, Department of Energy
Shirley Malcom, Ph.D., Head of the Directorate for Education and Human Resources Programs, American Association for the Advancement of Science

12:30 pm - 1:30 pm

LUNCH: Bell Harbor International Conference CenterHarbor
WEPAN AWARDS PRESENTATION

1:40 pm - 2:40 pm

WEPAN Business MeetingBay

2:50 pm - 4:00 pm

Session 5

1. PRE-COLLEGE PROGRAMS & CURRICULUM: DO THEY WORK?

.....Sound

Moderated by R. David Cantu, Director, MESA Engineering Program, California Polytechnic State University

Real-World Mathematics Through Science: A Focus on New Models of Teacher Professional Development that Promote Equity In Mathematics
Patricia MacGowan, State Director, Washington MESA, University of Washington

This presentation will include new models of supporting teachers on-line, discuss the recommendations to promote equity in mathematics classrooms, and demonstrate how the MESA series, "Real World Mathematics through Science" addresses these factors. These modules cover various science and mathematics topics, and discussion will focus on how the use of these materials gives secondary school teachers and students a broad view of science and math based careers and access to the professional engineering communities.

High School Outreach to Minority Women and Men Based Upon College Freshmen "Hands On" Engineering Courses: A Cautionary Tale
Pamela E. Kramer-Koehler, Ph.D., Associate Professor of Psychology and Director, Careers in Research for Minority Scholars in Materials Science, Polytechnic University

In the spring of 1997 a high school outreach program based on a "hands on" first semester freshmen engineering course developed under the NSF GATEWAY Engineering Education Coalition was offered. Student recruitment focused on "typical" rather than elite high schools in NYC. Components of the program and recommendations for similar programs will be made based on evaluation results. Pre-selection of students and student support issues will be addressed.

Longitudinal Study: Gender Patterns in Science Attitudes and Achievement
Elizabeth D. Riesz, Ph.D., Women in Science and Engineering Programs, The University of Iowa and *Sandra L. Stephen, Ph.D.*, Department of Research, Cedar Rapids Community School District

A longitudinal project brought 40 female and minority scientists and engineers into high school science classes just when students were studying concepts closely related to the role models' careers. At graduation, transcript analysis of students in the target class revealed no statistically significant gender differences in science credits earned, whereas gender differences were found in the baseline class. Project procedures, attitude survey results, and science credit analyses will be presented.

Engineering Careers Workshops for High Schools Girls and Their Mothers
Neda Fabris, Ph.D., Professor, Mechanical Engineering Department, California State University

A workshop consisting of six four hour-sessions was conducted in Spring 1995 and Spring 1996 for mothers and teenage daughters. The goal of the sessions was to introduce female participants to different branches of engineering professions and encourage them to pursue careers in science and engineering. Workshops included: lectures, hands-on experiments and contests, as well as career explorations and company tours. The project was funded with State of California lottery funds, obtained through competitive grants.

2. STRATEGIES FOR CLIMBING THE ACADEMIC CAREER LADDER

.....Bay

Moderated by Sandra Cooper, Ph.D., Associate Professor, Washington State University

Catherine J. Didion, Executive Director, Association for Women in Science and *Nancy M. Tooney, Ph.D.*, Secretary, Association for Women in Science and Associate Dean, Engineering and Applied Science, Polytechnic University

Panelists discuss the findings and recommendations of the AWIS Project on Academic Climate, a project whose goal is to create a better institutional climate for women in science and engineering. Central issues are 1) dual careers; 2) family and work, child-care, flextime, maternity leave, etc.; 3) mentoring faculty; and 4) mentoring students.

3. FEMINISM, WOMEN'S STUDIES AND ENGINEERING:

OPPORTUNITIES AND OBSTACLES

.....Cove

Moderated by Banu Subramaniam, Ph.D., Research Assistant Professor, Women in Science Program, University of Arizona

Angela Ginorio, Ph.D., Director, Northwest Center for Research on Women, University of Washington; *Devamoni Naidoo, Ph.D.*, School of Oceanography, University of Washington; and *Shirley Yee, Ph.D.*, Chair, Women Studies, University of Washington

This panel will explore the relationship between feminism and engineering. Panelists will explore the frameworks that feminist studies of science and technology and feminist theory in general offer our understanding of feminism and engineering. What implications do these have for women in engineering? How do we currently understand the climate for women in undergraduate, graduate and faculty positions in engineering? The panelists will explore the institutional, historical, ideological and disciplinary structures that have prevented dialogue between Women's Studies, Women in Science and Engineering Programs and Engineering Disciplines and explore options for bridging the gap.

4:10 pm - 5:30 pm

Session 6

1. INTERNATIONAL PERSPECTIVES: INDIA, ROMANIA AND THE UNITED KINGDOM

.....Cove

Moderated by Susan Linnemeyer, Director, Women in Engineering, University of Illinois

Women in Technical Education: A System Analysis

Prof. Masooda Yasin, Director, Technical Education, J&K State, Boys Polytechnic Campus, India

This presentation will analyze the existing rigid admission process for recruiting and training faculty, which has been demonstrated ineffective in achieving the desired outcome of increasing the participation of women in technical positions. The paper details the remedial approach necessary to make the system flexible, in general, and for women polytechnics in particular.

Who Will be Double-Crossed in a Transition or Post-Transition Society: The Woman, The Engineer, The Professor, The Mother?

Mihaela Marilena Albu, Department of Electrical Engineering, University Politehnica, Romania

This presentation will focus on the impact of women engineers as well as students pursuing degrees in Romania. After the 1989 Revolution a number of economic, societal and cultural changes are having a negative impact on the participation of women in engineering.

Conference Program

Women in Science and Engineering in the United Kingdom

Marie-Noëlle Barton, Manager, WISE Campaign, Engineering Council, United Kingdom

This presentation highlights the barriers faced by women in the United Kingdom and explains the initiatives implemented to remedy the situation.

2. TRAINING MENTORS AND MENTEES IN S&E: WORKSHOPSound

Moderated by Nancy Algert, M.Ed., LPC, Department of Educational Psychology, Texas A&M University

A Curriculum and Video for Training Mentors and Mentees

Suzanne G. Brainard, Ph.D., Director, Women in Engineering Initiative and Affiliate Associate Professor in Technical Communication and Women Studies

This presentation will describe a new curriculum for training students, faculty and professional scientists and engineers. Entitled "A Curriculum for Training Mentors and Mentees", it includes: handouts for students, faculty and professional engineers; a video; stand-alone evaluation module and comprehensive bibliography. A premier of the video and mentoring scenarios will be shown.

3. RETENTION OF WOMEN IN SCIENCE & ENGINEERINGBay

Moderated by Suzanne Scheff, Director, Women in Engineering Program, University of Kentucky

Retention of Freshmen Engineering Students Through an Ability-Based Learning Seminar

Judy C. Aull, Senior Academic Advisor, Department of Computer Science and Engineering, Auburn University

This project aims to work with capable women students who can be especially vulnerable to feelings of intimidation and lack of confidence regarding technical equipment and computer jargon. Achieving these goals will help freshmen women gain the confidence they need to succeed in rigorous engineering disciplines. The course is taught using the concepts of an ability-based learning program in which the educator determines the ultimate goal for the student and then identifies specific abilities that demonstrate the attainment of the goal. At each stage of the learning, students are assessed to determine if they have attained the ability. The course activities help the retention of women in engineering through the hands-on practical experiences in which they gain confidence in their ability to succeed in laboratory and technical work, and through the work with peers where they gain the social skills and support needed to succeed in engineering.

An Overview of Project EDGE

Liz Paciorek, Project Manager, Project EDGE, College of Science, Rochester Institute of Technology

Project EDGE is a three-year experimental project sponsored by the National Science Foundation. This project was designed using a multiple intervention approach to increase the retention of young women with an interest in math, science and engineering. Rochester Institute of Technology and seven area high schools participated in the experimental project. The three major components of the project include the following interventions: gender equitable classroom training was provided to teachers to change classroom climate; on-line mentoring by professional women in the above fields was provided to students, and students were exposed to a series of career exploration opportunities. Strategies for implementation of similar programs will be shared.

Impact of a Gender-Balanced Summer Engineering and Science Camp on Students' Future Course and Career Choices

Monique Frize, Ph.D, P. Eng., NSERC/ Nortel Joint Chair of Women in Science and Engineering in Ontario, and Professor of Systems and Computer Engineering, Carleton University, Canada

A study was carried out in the spring and summer of 1997 to assess whether the summer camp (Worlds Unbound, University of New Brunswick) had achieved its goals: to increase the understanding of science and engineering; to improve the confidence and skills of the students in this area; have a positive influence on selection courses in mathematics and science in their future high school years; and increase the likelihood of a choice of career in these fields. Results of the study and the impact of the camp on female and male participants will be presented

5:30-6:30 pm

WEPAN INTEREST GROUPS

MENTORNET INFORMATION SESSIONBay

Carol Muller, Ph.D., Executive Director, MentorNet
MentorNet is a new WEPAN venture- a national electronic industrial mentoring network for women in engineering and science- which pairs undergraduate and graduate women majoring in engineering and related sciences with mentors in industry via email. This session provides an overview of MentorNet, and an opportunity for Q&A for those interested in participation.

FACULTY ISSUESCove

Karan Watson, Ph.D., Associate Dean of Engineering, Texas A&M University

ASSESSING THE EXPERIENCE OF WOMEN IN ENGINEERING: LESSONS LEARNED/THINGS TO SHARESound

Gloria Rogers, Ph.D., Vice President for Institutional Research, Rose Hulman Institute of Technology

6:30 pm

EVENING: ON YOUR OWN

Tuesday, June 16, 1998

7:30 am - 9:30 am

BREAKFAST: Bell Harbor International Conference Center

8:00 am - 11:00 am

REGISTRATION: Bell Harbor International Conference Center

8:30 am - 9:30 am

PLENARY Bay

ABET 2000 AND BEYOND

George D. Peterson, Ph.D., Executive Director, ABET
Ed Parrish, Ph.D., President, Worcester Polytechnic Institute

9:40 am - 11:00 am

Session 7

1. REEXAMINING THE GLOBAL DEFINITION OF AN ENGINEER

..... Cove

Moderated by Jill S. Teitjen, P.E., Director, Women in Engineering Program, University of Colorado, Boulder

Transforming the Engineering Curricula: Gender Equity in Engineering in Denmark

Mona Dahms, Ph.D., Associate Professor, Department of Communication Technology, Aalborg University, Denmark

Due to a dramatic decrease in the enrollment in engineering education in Denmark between 1990 and 1995, a renewed interest in young women as potential engineers has surfaced in Danish society at large and more specifically in engineering educational institutions. At the same time critical voices are being raised—from industry as well as from other stakeholders in society—against the traditional engineering curricula as being too technically narrow, not allowing for the development of personal qualifications and interpersonal skills. Also, engineering students are critical in their assessment of the pedagogical aspects of engineering education. This presentation will cover statistics on women in engineering education, give a few examples of the critical voices from industry and students, and take a critical look at recent attempts to increase the proportion of female students in engineering.

Status of Female Engineers as Students and in the Workforce in Egypt

Azza M. Elleboudy, Ph.D., Professor and Head of Civil Engineering Department, Zagazig University - Banha Branch, Egypt
The status of female engineering students and professionals in Egypt will be addressed.

2. MENTORING MODELS: USING TECHNOLOGYBay

Moderated by Anne E. Donnelly, Ph.D., Associate Director for Education and Outreach, University of Florida

The Value of Industrial Electronic Mentoring - What Have We Learned Over Two Years?

Kathy Scott Weaver, Assistant Director, Women in Science Project, Dartmouth College
Dartmouth's Women in Science Project ran a two-year pilot electronic mentoring program to pair undergraduate and graduate women in science, math, and engineering with professional scientists and engineers in industry using e-mail. Evaluation findings provide insight into the value and distinctive qualities of electronic mentoring, and suggest recommendations for improving electronic mentoring programs.

Mentoring of Young Women Using Distance Technology

Patricia A. Pitkin, Director of Libraries, Wallace Memorial Library, Rochester Institute of Technology
Project Edge is a multi-component three-year study sponsored by the National Science Foundation. The project is designed to increase retention of women in math, science and engineering careers using a multiple intervention approach. An important aspect of this project is mentoring of the high school and first-year college student in the project by professional women in the above fields. In order to facilitate this mentoring we have used on-line distance learning software (FirstClass) and the local interactive television network (RAITN). This presentation will discuss the advantages and drawbacks to using these forms of technology as a vehicle for mentoring. Examples of on-line conversations and programming done over the interactive television network will be shared.

3. ACADEMIC CLIMATE AND STUDENT RETENTIONSound

Moderated by Teresa Wright, Assistant to the Dean, Texas A&M University

Addressing and Effecting Climate Change Through the ECSEL Video Workshop

Barbara Bogue, Director, Women in Engineering Program, The Pennsylvania State University
The ECSEL Video Workshop Project is an extensive cross-college effort to (1) engender discussion and change among faculty about the quality of and responsibility for the learning environment for all students in the engineering classroom and curriculum, and (2) underscore equity issues for underrepresented minorities. The collaborative experience, the iterative development of the workshop, the process by which the Video Workshop Project gained acceptance among engineering departments, workshop follow-up activities and results of the presentation evaluation will be discussed.

A Model Partnership to Retain Underrepresented Engineering Students

Mary R. Anderson-Rowland, Ph.D., Associate Dean, College of Engineering and Applied Sciences, Arizona State University
This presentation will examine how the personnel in the many programs comprising the Office of Student Affairs and Special Programs in the CEAS partner in student recruitment and retention events. The collaborative programs include the Women in Applied Sciences and Engineering (WISE) Program and the Office of Minority Engineering Programs (OMEP) and the College of Engineering and Applied Sciences (CEAS) Office of Recruitment.

The ESTEAM Program's Phase I Results: Faculty Views on Engineering Student Team Effectiveness

Patricia Mead, Ph.D., Assistant Professor, Mechanical Engineering, University of Maryland

Good team skills are desirable to contemporary engineering employees; yet, in 1996, The Society of Manufacturing Engineers identified competency gaps in engineering graduates in understanding team diversity, team building, and teamwork skills. Today, no standardized programs exist for teaching engineering team development skills. The ESTEAM Program will develop materials to teach students about differences in the way team members operate, focusing primarily on learning styles. The faculty interview data, collected from partner institutions, exposes the scope of the lack of student team training and establishes the value of team training materials like those developed by the ESTEAM Program.

11:10 am - 12:30 pm

Session 8

1. WIE ROLE IN CORPORATE CONNECTIONS TO HIGH POTENTIAL STUDENTSCove

Moderated by Debra A. Fowler, Workforce Planning Manager, Human Resources, The Dow Chemical Company

Marissa Martinez, Group Manager of Advertising Technologies, Microsoft Corporation and *Lynn Baker*, Campus Recruitment Manager, Intel Corporation

Discussion will focus on ways that WIE programs can assist corporations in identifying and recruiting high potential candidates. Techniques include presenting seminars on cultural interactions, encouragement of foreign language study and support for foreign nationals in expanding the globalization of engineering. Panel members will discuss ways they have interacted with WIE programs on campuses and propose new means that are beneficial to both parties as future trends unfold.

2. INNOVATIVE APPROACHES TO DIVERSITYSound

Moderated by Arlene F. Norsym, Assistant Dean of Engineering, University of Illinois

Curriculum, Methods, and Males: Problems and Solutions to Low Female Enrollment in College and Pre-College Technological Courses

Jim Flowers, Ph.D., Department of Industry and Technology, Ball State University

This presentation looks at three issues regarding program improvement to promote more equitable enrollment, retention, and care of female students in college and pre-college industrial technology: curriculum appraisal, teaching methodology appraisal, and minimizing barriers to women stemming from male students.

Women Impacting Technology Impacting Women

Anita Borg, Ph.D., Director, Institute for Women and Technology, Xerox PARC
The Institute for Women and Technology is an organization whose aim is to dramatically increase the gender diversity in technology and to greatly improve the likelihood that technology will have a positive impact on whole communities in the future. This presentation will discuss the visions, goals and activities of the Institute.

The Distance Traveled: An Egalitarian Approach to Affirmative Action

Richard Devon, Ph.D., Director, The Pennsylvania Space Grant Consortium, and Associate Professor, Engineering Design and Graphics, The Pennsylvania State University

The "distance traveled" idea is to measure how far a student has come in order to improve the assessment of where they are now. It is an achievement measure that will presumably predict future achievement. Overcoming special hurdles due to low income, race, rural background, gender, disability, health, and so on, will be taken as a sign of achievement. Its use as a fellowship program will be discussed.

3. CURRICULUM PROGRAMS: K THROUGH GRADUATE SCHOOL

.....Bay

Moderated by Stephanie Blaisdell, Director, Women in Applied Science and Engineering Program, Arizona State University

Women, Science, and Culture: A New Course for First-Year Women and Minority Students in SEM

Judy Meuth, Instructor, Women's Studies Program, Washington State University
This course is part of an NSF-sponsored initiative at Washington State University. In the course, students research the lives and work of historical and current women and minority scientists from diverse cultures and explore why there are so few. Students examine the origins of science, how it is practiced around the world, the dominant ideologies of science, and alternative ways of doing science. Hands-on science and technology labs are integrated into the course. The goals of the course are to increase the student's level of self-confidence and commitment to SEM majors, to retain underrepresented groups in SEM, and to ultimately alter the SEM community by helping to create a diverse workforce with a broader vision of what it means to be successful.

A "Fast Track" from a Two-Year College Degree to a Bachelor's Degree and Graduate School in Materials Science and Engineering

Pamela E. Kramer-Koehler, Ph.D., Associate Professor of Psychology and Director, Careers in Research for Minority Scholars in Materials Science, Polytechnic University
A program to meet the goals of increasing minority student enrollment in graduate engineering programs in Materials Science and Engineering has been developed with support from the Office of Naval Research DOD. The unique features of the program will be presented including: 1) recruitment and retention of talented two year community college graduates from predominantly minority institutions into 4 year B.S. programs in engineering; (2) high academic standards for participants who must maintain a 3.0 GPA; and (3) full tuition and academic supports with special orientation towards graduate school placement.

G.E. Faculty of the Future Program at Texas A&M University

Marilyn Green, Co-Director, Multi-Ethnic Engineering Program and Program Coordinator, Texas A&M University
The G.E. Faculty of the Future Program in the College of Engineering at Texas A&M University is focused on encouraging, supporting, and increasing the participation of high-achieving women and minorities who are typically underrepresented in engineering to earn the doctorate and enter faculty careers. This presentation will describe the three components of the program including: undergraduate student research with faculty members; graduate student fellowships; and young faculty development grants.

12:30 pm - 1:30 pm

LUNCH: Bell Harbor International Conference CenterHarbor

1:30 pm - 3:00 pm

Session 9

AFFIRMATIVE ACTION UPDATE: WHERE ARE WE? WHERE ARE WE GOING?

.....Bay

Moderated by Robert Willis, Project Director, MESA, Johns Hopkins University

Karan Watson, Ph.D., Associate Dean of Engineering, Texas A&M University and Carla Trujillo, Ph.D., Director of Academic Diversity/Julia Morgan Engineering Program, UC Berkeley

Poster Sessions

**Sunday 10:00 am -10:40 am
and 4:20 pm -5:00 pm**

Mentoring: The Foreign Professional's Step to Success

Angela Prymas, Civil Engineer, South Florida Water Management District
Unfamiliarity with changes in the English language can be a handicap for today's immigrating engineer. The mentoring experience can be a powerful tool in helping those engineers reach their full potential in organizations. Enlightenment would include advice on idiomatic characteristics of the profession, accepted business practices, professional policies, cultural office taboos, and politics. And within the relation can come new insight into office jargon, cultural traditions of peers and avenues of advancement.

Tech Star Seminars

Claudia Pacioni, Research Assistant, WIMSE, Washington State University
The Tech Star seminars are intensive, Collaborative seminars designed to teach a variety of computer skills which will enhance the students' learning capabilities and make them more confident with the use of technology as they enter courses and careers in the sciences, engineering and mathematics (SEM). The seminars are one component of Project EFFECT, a National Science Foundation and Washington State University sponsored program addressing the underrepresentation of women and minority groups in SEM. EFFECT is an acronym for EQUATION FOR FUTURE EQUITY in CURRICULUM and TECHNOLOGY.

Guiding the K-12 Students Toward a Compatible Profession

Melek Yalcintas, Ph.D., Assistant Professor, Department of Mechanical Engineering, University of Hawaii
This presentation is on searching alternative methods free from society biases and simply directed toward measuring particular talents and interests required in choosing engineering professions as a career path. Such alternatives can be listed as use of WEB pages, presenting case stories, engineering movies, puzzles and question answer series.

Global Academic Mentoring: Using New Technology to Link Women Engineers

Martha E. Crosby Ph.D., Professor, Department of Information and Computer Science, University of Hawaii
We plan to use a model of the University of Hawaii successful women's mentoring program to form mentoring pairs in underrepresented disciplines such as engineering and the sciences. The University of Hawaii program will cooperate with other educational institutions that have existing compatible faculty mentoring programs. Techniques such as e-mail, chat rooms, the WWW, and video conferences will be employed in the mentoring process.

A Model for International Networking From Physics Education

Betty P. Preece, Physics Teaching Resource Agent
This paper will describe how Physics teachers around the world have been involved in extensive networking through conferences, seminars, in-service and shared training, publications, newsletters, exchange visits among themselves and their students, and etc. These have been carried out through a variety of organizations and settings. Ideas for extending such activities to engineering education will be suggested.

Easing the Transition to College: A Pre-matriculation Program to Enhance Recruitment and Retention

Norma Sorenson, Ph.D., Director, Student Services, University of Alabama at Birmingham
The goal of this presentation is to provide an overview of a pre-matriculation program that students may attend after they have been admitted to a school of engineering but before they register for college courses, which assists them in making the transition from high school to the college environment.

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