Strategy for Improving Diversity
What Works?

Judy M. Vance
Professor
Iowa State University
Mechanical Engineering

2010 ASME International Mechanical Engineering Education Conference
Newport Beach, CA
March 26, 2010
Barbara Bogue, Associate Professor, Engineering Science and Mechanics Department and Women in Engineering, Director of the AWE Project, Pennsylvania State University

Joseph Beaman, Professor and Department Chair, Mechanical Engineering Department, The University of Texas at Austin

Derek Dunn-Rankin, Professor and Department Chair, Mechanical and Aerospace Engineering, University of California, Irvine

Nadine Aubry, Raymond J. Lane Distinguished Professor and Department Head, Mechanical Engineering Department, Carnegie Mellon University
Describing Mechanical Engineering:
Devising a Strategy for Recruiting Underrepresented Students
Karen A. Thole, Professor and Department Head, Mechanical and Nuclear Engineering Department, The Pennsylvania State University

Summaries of NAE Grand Challenges and ASME 2028 Vision for ME
Alice Agogino, Professor, University of California at Berkeley

Changing the Conversations
Don Giddens, Dean at Georgia Tech and co-author of the book Changing the Conversation

Mechanical Engineering Curriculum Change for Diversity Improvement: the DEEP Project Status Report
Ilene Busch-Vishniac, Provost and Vice-President Academic, McMaster University, Patricia B. Campbell, Campbell-Kibler Associates, Inc. Tom Kibler, Campbell-Kibler Associates, Inc.
Special efforts for recruitment

- **Outreach to High Schools (some 4 – 6 grades)**
  - Inviting high school students to visit the department
  - Special events targeted at engineering awareness
  - Using women or minorities as ambassadors (including faculty, graduate, and undergraduate students)
  - Other outreach such as summer programs or links with organizations such as Girl Scouts
- Make use of women role models
- Recruitment materials designed to target minorities or females
- Use targeted scholarships for females or minorities
Special efforts for retention

- Encourage students to participate in SWE, NSBE, and SHPE
- Mentorship programs with other female students or mentors from industry
- Female socials or luncheons
- Special resources for females (such as lounges)
- Networking activities
- Targeted scholarships
- Tutoring
- Showcasing female faculty in first-year seminars
- Humanitarian projects
- Special advising or support
- Encouraging welcoming departmental climate
- Grouping females in specific course sections
Anticipated changes to efforts

- Changes to marketing materials used by the departments
- Change the language used in marketing materials to focus on describing ME in a new manner
- Changing their curriculum in such a way that projects would focus on topics more likely to be of interest to women and minorities.
- Increase personal involvement with female faculty during the application process
- Build stronger relationships with area schools
- Participation in climate survey
- Recruit more female faculty
What we know about what works: Warming the climate for underrepresented students
Barbara Bogue

Proactive Tactics for the Recruitment and Retention of Women in Mechanical Engineering
Joseph Beaman

Diversity in Engineering: Leveraging Alliances for Minority Participation
Derek Dunn-Rankin

Recruiting Women into Mechanical Engineering
Nadine Aubry
1:30 – 1:40  Introduction
1:40 – 2:00  What we know about what works: Warming the climate for underrepresented students
2:00 – 2:20  Proactive Tactics for the Recruitment and Retention of Women in Mechanical Engineering
2:20 – 2:35  Q&A
2:35 – 3:00  Breakout session #1
3:00 – 3:15  Afternoon break
3:20 – 3:40  Diversity in Engineering: Leveraging Alliances for Minority Participation
3:40 – 4:00  Recruiting Women into Mechanical Engineering
4:00 – 4:15  Q&A
4:15 – 4:40  Breakout session #2
4:40 – 5:00  Report out
1. Discuss current successes and (not successes) at your school for recruitment and retention of students.
2. Discuss the challenges you face.
3. Discuss tactics you have used to motivate faculty, change culture.
4. Discuss how you assess the impact of your strategies.
5. What is your goal? Increase number of students, increase quality of students? How much?
1. Discuss why you want to increase diversity.
2. Discuss the value proposition of having a more diverse student body.
3. Discuss the issues inhibiting achievement of a more diverse student body.
4. Discuss how you will prioritize efforts to increase diversity.
5. Discuss ideas for raising resources to support your efforts.