ASEE Diversity Initiative
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- Kenneth Burbank (Purdue)
- Stephanie Adams (ODU)
- Emily Allen (Cal-State LA)
- Yannis Yorstos (USC)
- Theresa Maldonado (UTEP)
- Donna Riley (Purdue)
- Darryl Williams (Tufts)
- Beena Sukumaran (Rowan)
- Janet Callahan (Boise St)
- Stephanie Farrell (Rowan)
- Patricia Fox (IUPUI)
- Daryl Chubin

Bev Watford, Stephanie Farrell, Patricia Fox, and Norman Fortenberry were part of the leadership team and worked directly with the effort.

US Enrollment in Engineering

756,191
US Engineering Enrollment Demographic Percentages (Courtesy of ASEE)

Engineerng Enrollment Demographics-percentages
(Courtesy of ASEE)

2006 Percentages
2016 Percentages

- M UG Enroll: 78.3% (2006) vs 53.4% (2016)
- As-Amer UG Enroll: 4.8% (2006) vs 3.7% (2016)
- Hispanic UG Enroll: 12.4% (2006) vs 12.3% (2016)
- Nat Amer UG Enroll: 0.3% (2006) vs 3.7% (2016)
- Cauc UG Enroll: 53.4% (2006) vs 3.7% (2016)
- Two UG Enroll: 3.7% (2006) vs 3.7% (2016)
- Unknown UG Enroll: 3.7% (2006) vs 3.7% (2016)
The Challenge

• African-Americans and Latinx’s are more underrepresented than 10 years ago
• Data is worse since the signing of the Deans Diversity Pledge
• The trend actually goes back 35 years
  • Black students are just 6 percent of freshmen but 15 percent of college-age Americans.
  • More Latinx are attending elite schools, but the increase has not kept up with the huge growth of young Latinx in the United States. Latinx students are 13 percent of freshmen but 22 percent of college-age Americans, this gap has been expanded by 9 percent over the last 35 years.
It gets worse...

- Between 2026 and 2031 the ranks of high school graduates are expected to drop by 9 percent and those students who remain are likely to be more diverse (fewer white students and more Hispanics) with a greater range of academic abilities (fewer high scorers on SAT and ACT), and stagnant family income.
• Given that engineering typically engages between 5%-6% of first year engineering students, what are the implications for engineering enrollments of the above indicated changes
Dean’s Solution

• Develop a Diversity Plan for our engineering programs with the help and input of national organizations such as NSBE, SHPE, NACME, GEM, SWE, AISES, WEPAN and the ASEE that would: articulate the definition and the vision of diversity and inclusiveness for the institution; assess its need or justification; provide a statement of priorities and goals; commit to equity, implicit bias and inclusion training across the school; define accountability; and the means of assessing the plan through various means including surveys.

• Commit to at least one K-12 or community college pipeline activity with explicit targeted goals and measures of accountability aimed at increasing the diversity and inclusiveness of the engineering student body in our institution.

• Commit to developing strong partnerships between research-intensive engineering schools and non-PhD granting engineering schools serving populations underrepresented in engineering.

• Commit to the development and implementation of proactive strategies to increase the representation of women and underrepresented minorities in our faculty
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• To accelerate the achievement of the Diversity Pledge goals, our concept is to **publicly recognize** those engineering and engineering technology colleges that make significant, measurable progress in increasing the diversity, inclusion, and degree attainment outcomes of their programs.

• Recognition would occur at three levels: bronze, silver, and gold.
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• Bronze Level recognition (minimum criteria)
  • Sign and execute the ASEE Deans Diversity Pledge.
  • Have an established infrastructure to support diverse populations including those underrepresented in Engineering. These include Women, Underrepresented minorities, Lesbian, Bisexual, Gay, Transgender and Queer (LGBTQ) and persons with disabilities. Adjusted to meet institution size
  • Have a Diversity and Inclusion Plan
  • Have to at least one K-12 or community college pipeline activity
  • Implement at least one additional program or initiative from the list of Proven Practices.
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Baseline Data and Quantifiable Metrics

Applicants should include data that cover the three academic years preceding the year of the application. This is where the performance is measured.

- Tenured and tenure-track faculty
- Professors of practice, instructors, and/or long-term adjuncts
- Undergraduate student enrollment
  - Undergraduate student 6-year graduation rates
- Bachelor’s degree recipients
- Master’s student enrollment
- Master’s student retention
- Master’s degree recipients
- Doctoral student enrollment
- Doctoral student retention
- Doctoral degree recipients
- Postdoctoral fellows
- Non-teaching academic staff
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• Silver Level recognition
  • An institution may apply after receiving bronze recognition (recommended at least 2 years) and must demonstrate improvement beyond that demonstrated at the bronze level (or must exhibit performance exceeding standards for the Silver level) in three or more areas listed in their goals, and they must show some improvement in reaching additional populations beyond those where they exhibit some strength.
    • Have tenure-track faculty representation of women (School or Collegewide) in alignment with the average of institutions in its class (Carnegie Classification).
    • Have tenure-track faculty representation of underrepresented minorities (School or Collegewide) in alignment with the average of institutions in its class (Carnegie Classification).
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• Gold Level recognition
  • This is the highest level and difficult to achieve. Applicants must have at least one year in the silver category but three years are recommended.
  • Criteria includes Silver-level achievements plus leadership/service to other institutions via active dissemination and evidence of providing assistance in adaptation (e.g., workshops, seminars, circuit riders, consultants, etc.).
National Recognition is coming

• 143 Universities in the UK already rate institutions on how they support women (Athena-SWAN).
• The AAAS plans to adopt this program (SEA-Change) for all STEM majors
AAAS Sea Change program

• The Sea Change Program aims to put systematic effort into making structural change.

• Institutions conduct voluntary assessment that looks at diversity and inclusion issues in STEM for different institutional audiences.