An examination of the numbers:  
African American Female Faculty in Engineering

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Introduction

• In 1975, underrepresented women in STEM met at AAAS to discuss common experiences
  – Double oppression of sex and race or ethnicity
  – Third oppression in the chosen career
• In 2011, the conversation had moved from rights versus wrongs to support versus neglect
Introduction

- Little is still known about the collective experiences AA women in academia encounter
- There were two panels held at FIE 06 and KOF 07 to present emerging themes
Motivation

• Explore the national demographics for African American women in engineering education

• What can we learn from data on AA female faculty in engineering programs to develop new initiatives to promote the experiences and provide support for this group?
Methods

• Extracted data from ASEE databases which includes data on engineering faculty at accredited engineering programs, categorized by
  – gender
  – race
  – rank
  – discipline

• Data on AA women is only available between 2001 and 2012
Results:
Trends from 2001 – 2012

- Approximately 430,000 faculty in accredited US engineering schools in 2012
- 64% are tenure-track
- Female engineering faculty increased from 9 to 12%
- Hispanic faculty increased from 3 to 4%
- AA faculty increased from 2 to 3%
Results:
African American Faculty

- AA women make up 4% of all women currently in eng professoriate (1% increase since 2001)
- AA women increased from 12 to 20% of all tenure track AA
- This is only a slight increase compared to the population as a whole
Results:

African American Female Faculty

• In 2012, there were less than 30 AA female full professors
• There were strides made at the associate level
• There are only 140 AA female eng faculty across all ranks
Results:

African American Female Faculty

Numbers are still low by discipline despite some growth in mechanical, electrical & computer, chemical engineering and computer science.
Results:

AA Female Eng Faculty by Institution Type

- AA Female Eng faculty across all ranks at the 12 HBCUs with eng schools
- There are 295 non-HBCU eng schools
- One-third of the population of AA female eng faculty are at HBCUs
- Promising that the numbers are increasing
Discussion

• Data does not correlate individual longitudinal tracking
• No information about recruitment or retention or effective practices (i.e. HBCUs)
• Only includes data from ABET accredited engineering programs
Discussion

• Data could also be classified by institution type
• Study could be extended to Hispanic and Native American female faculty
• The benefits could be to inform policy makers to connect the best practices in development, recruitment, retention and promotion
Discussion

• Extend this work to empirical studies with qualitative and mixed methods to answer research questions
• Large scale studies across multiple institutions
• Expand theoretical and methodological frameworks on research on WOC in engineering
Conclusions

• Although the numbers have increased over time, there are still fewer than 150 AA women faculty across all ranks employed in tenure-track and tenured positions in accredited engineering programs.

• HBCUs house the largest number AA women faculty.
Conclusions

• Policymakers, administrators, and faculty must continue to identify ways to increase, recruit, retain and develop African American female faculty in engineering.

• This could be done with empirical studies and dissemination about the best practices and longitudinal experiences of women of color in engineering.
Questions