

# Cultivating Diverse Faculty Leadership in the STEM Disciplines: Best Practices

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# Presentation Outline

- The need for diverse STEM leadership
- Towson University ADVANCE IT-Catalyst
- Prairie View A&M University ADVANCE-PAID
- Virginia Tech *AdvanceVT*
- CCAS ADVANCE Initiative
- Questions and answers

# The Need for Diverse STEM Leadership

Women constitute...

- 47% of earned S&E doctorates <sup>[1]</sup>
- 42% of S&E doctoral full-time junior faculty <sup>[1]</sup>
- 25% of S&E doctoral full-time senior faculty <sup>[1]</sup>
- 41% of arts and sciences deans <sup>[2]</sup>
- 38% of chief academic officers <sup>[2]</sup>
- 23% of college/university presidents <sup>[2]</sup>

# The Need for Diverse STEM Leadership

Underrepresented minorities\* constitute...

- 7% of earned S&E doctorates <sup>[1]</sup>
- 8% of S&E doctoral full-time faculty <sup>[1]</sup>
- 10% of arts and sciences deans <sup>[2]</sup>
- 8% of chief academic officers <sup>[2]</sup>
- 11% of college/university presidents <sup>[2]</sup>

*\* Includes blacks, Hispanics, and American Indians/Alaska Natives*

# Towson University

*Gail Gasparich*

Carnegie Classification: Master's Large  
Moving toward Doctoral/Research  
Intensive

Metropolitan, Urban (Baltimore, MD)

17,529 undergrads (40% male/60% female)  
4,311 grads (28% male/72% female)



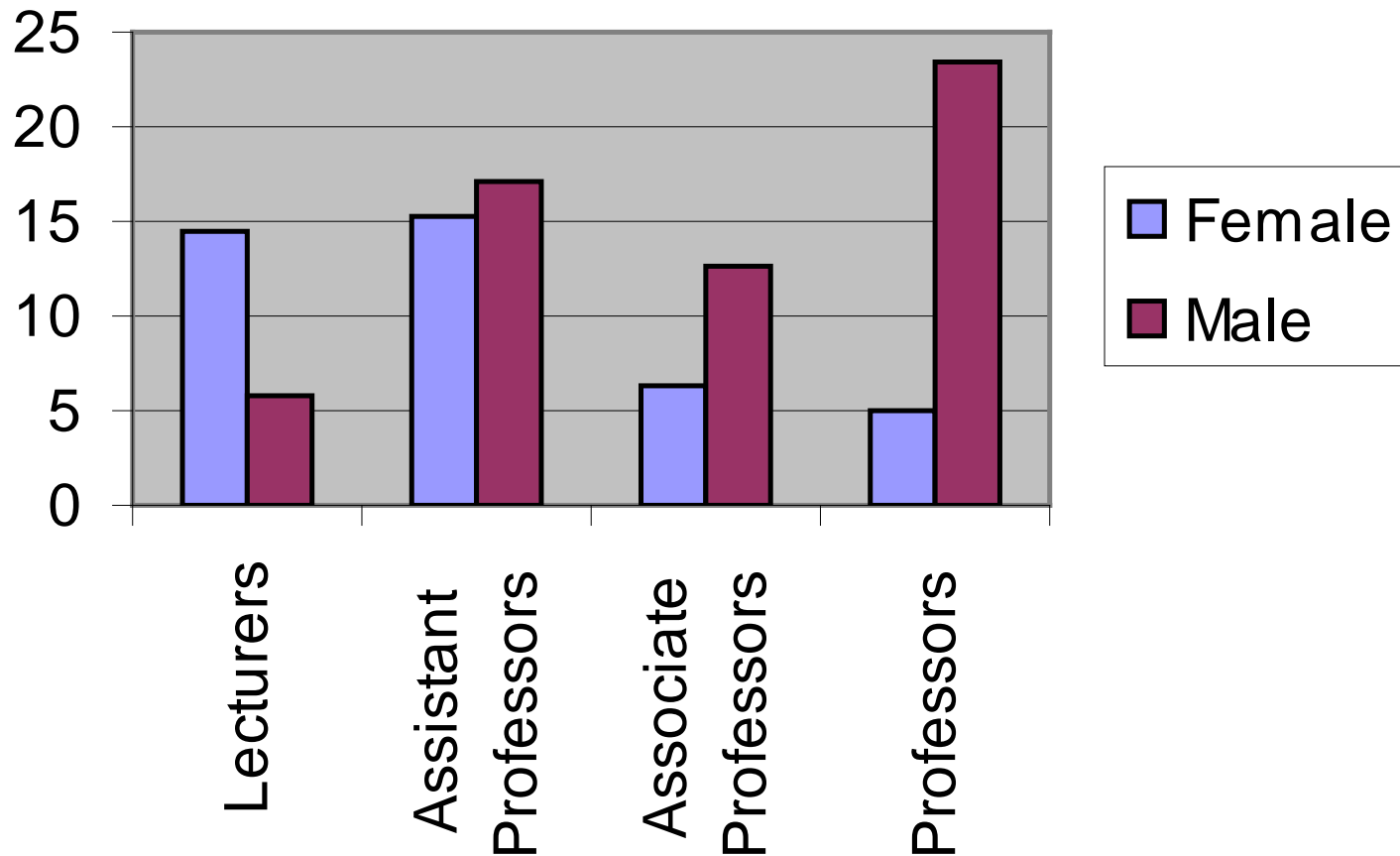
- Fisher College of Science and Mathematics
  - ~2500 undergrads (52% male/48% female)
  - 700 grads (43% male/57% female)
- Five Departments and 2 Interdisciplinary Programs
- Full-time, Tenured/Tenure-Track Faculty
  - 135 (65% male/35% female)





## FCSM Full-time Faculty

Percent of all Full-time Faculty



# Need for Leadership Development

- FCSM Administration
  - Dean (male)
  - Associate Dean (female)
  - 5 Department Chairs (all male)
  - 2 Interdisciplinary Program Directors (one male, one female)
  - All Caucasian except one Asian Chair





# NSF ADVANCE IT-CATALYST

- To determine the current status of gender equity and diversity
  - Collect Baseline Data on Hiring Trends, Faculty Rank, Faculty Salary, Faculty Recognition, etc.
  - Performed Climate Survey
  - Interviewed Current Faculty, Faculty Offered Position (Not Accepted) and Faculty Leaving Before Retirement
  - Policy Comparison Among Peer Institutions
- Information Provided Support for Diversity Action Plan Initiatives

# Programs for Leadership Development

- Post-tenure Mentoring
  - Strong Pre-tenure mentoring Program
  - Still Critical for Post-Tenure
    - Group vs. One on One
    - Issue of Same Sex Mentoring Teams
- Review of Service Distribution
  - All Service is not EQUAL



# Awards and Recognition Process Review

- Self-nomination → College Council Nominations
- Follow national trends Scholarship and Outstanding Faculty awards to males and Teaching and Service awards to females



# Leadership Development

- Use leadership development programs to:
  - 1) position faculty to move up in academic rank
  - 2) prepare faculty to step into leadership opportunities when available
  - 3) increase diversity of those in administrative positions



# Prairie View A&M University

*Felecia Nave, PI*



*ADVANCE-PAID: Successfully Navigating Your Career –  
Advancing Women in Engineering and Technology at HBCUs*



# Overarching Goal

To generate a toolkit defined by the different stages of an academic career path and containing a new base of information regarding effective strategies and promising practices for female faculty to use to successfully navigate their careers at HBCUs in Colleges and Schools of Engineering.



# PVAMU/TAMU ADVANCE-PAID

- 2009 PVAMU/TAMU awarded an NSF Partnerships for Adaptation, Implementation, and Dissemination (PAID).
- At the time of our proposed project, only four ADVANCE initiatives had been awarded to HBCUs. : There has also been three ADVANCE-Leadership awards to date which focus on women of color.
- Given the important role HBCUs play in developing the scientific and engineering workforce combined with the important role of women faculty, more direct measures are needed to ensure the success of female faculty at these institutions.

# PVAMU/TAMU ADVANCE-PAID

- 14 HBCUs with ABET accredited Colleges or Schools of Engineering.
- In general, female faculty represents a small fraction of the total engineering & technology faculty at HBCUs.
  - ~49 Department Heads, 587 tenure and tenure-track faculty, 14
  - Female faculty represents a mere 8.5% of the tenured and tenure-track faculty at HBCUs in Engineering and Technology (58 female faculty).
  - At the administrative level, females represent 6% of the Department Head/Chair positions and 15% at the Dean's level (2 of 14).
  - Thus for a number of years female representative at the highest is virtually non-existent.

# Objectives

- To develop a continuum of activities that will assist women faculty in their professional development and growth while retaining them within the academic and administrative ranks at HBCUs in Colleges or Schools of Engineering and Technology
- To establish Professoriate Affinity Communities
- To explore the perspectives of key stakeholders (i.e. Deans, Department Chairs/Heads, etc.)
- To establish communication mechanisms for life-long engagement
- To dissemination of Best Practices to HBCU Engineering Administrators

# Activities



- Interactive Summer Workshops (2011, 2012)
- SEED Grants and Professional Development Grants
- Social and Peer Mentoring Programs
- Professional Career Coaching



# Focus of ADVANCE project

- Retention
- Advancement
- Professional Network
- Access to Resources
- Opportunities



# 2011 Professional Development Workshop:

## *Successfully Navigating Your Career*

- Workshop Attendees
  - Junior Faculty: 10
  - Senior Faculty: 9
- Workshop Foci
  - Career Management
  - Developing, Advancing, & Sustaining a Successful research Program





# Snapshots of Workshop



# 2011 SEED Grant Awardees

- 13 submitted proposals
- 9 were awarded
- 7 Assistant, 2 Associate Professors received \$10,000
- Professors are from:
  - Alabama A&M University,
  - Florida A&M University,
  - Hampton University,
  - Norfolk State University,
  - North Carolina A&T State University,
  - Prairie View A&M University, and
  - Tuskegee University

- For example:

Dr. Qiang Le, Assistant Professor,  
Hampton University,

Project Title: « ***Modeling and  
Simulation for Weather-Dependent  
Energy Constrained Environments*** »





# Career Coaching

- Program in the initial stages
- Personal Career coach
- Professional Coaches
  - Lesia Crumpton-Young and Rhonda Franklin, CAFÉ
- 8 mentees
  - Associate Professors
  - Full Professors
- Workshop at the Professional Development Conference in May



## PVAMU STEM Faculty Luncheon

- Partnered with Texas Engineering Experiment Station
- Purpose: To focus on issues related to the retention and advancement of female STEM faculty at PVAMU. Explore partnership within the TAMUS system to address low number of female faculty in STEM at its member institutions and agencies.
- Attended by faculty from the following colleges:
  - Roy G. Perry College of Engineering
  - Brailsford College of Arts and Sciences
  - Whitlowe Green College of Education
  - College of Agriculture



# Contact Information

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# Virginia Tech

Nancy Ross, Associate Dean, College of Science

## Overview

- Institutional context
- Cultivating a Diverse Faculty Leadership:
  - Faculty development programs
  - Workshops and seminars
  - Mentoring



# Virginia Tech



- Public research intensive land-grant university
- 65 bachelor's degree programs and over 150 master's and doctoral programs
- Eight colleges and graduate school
- 30,000+ full-time students (44% female)
- Total research expenditures of \$396.7 million in fiscal year 2010, 44th in the nation
- In fall of 2010, 1,273 tenured or tenure track faculty members, 27% female, 7% under-represented minorities

# Women Leaders at Virginia Tech

- One of eight academic deans
- Ten of 26 associate deans in academic colleges
- Eleven of 61 department heads
- Three of 14 executive administrators
- Three of 13 university-level research center directors



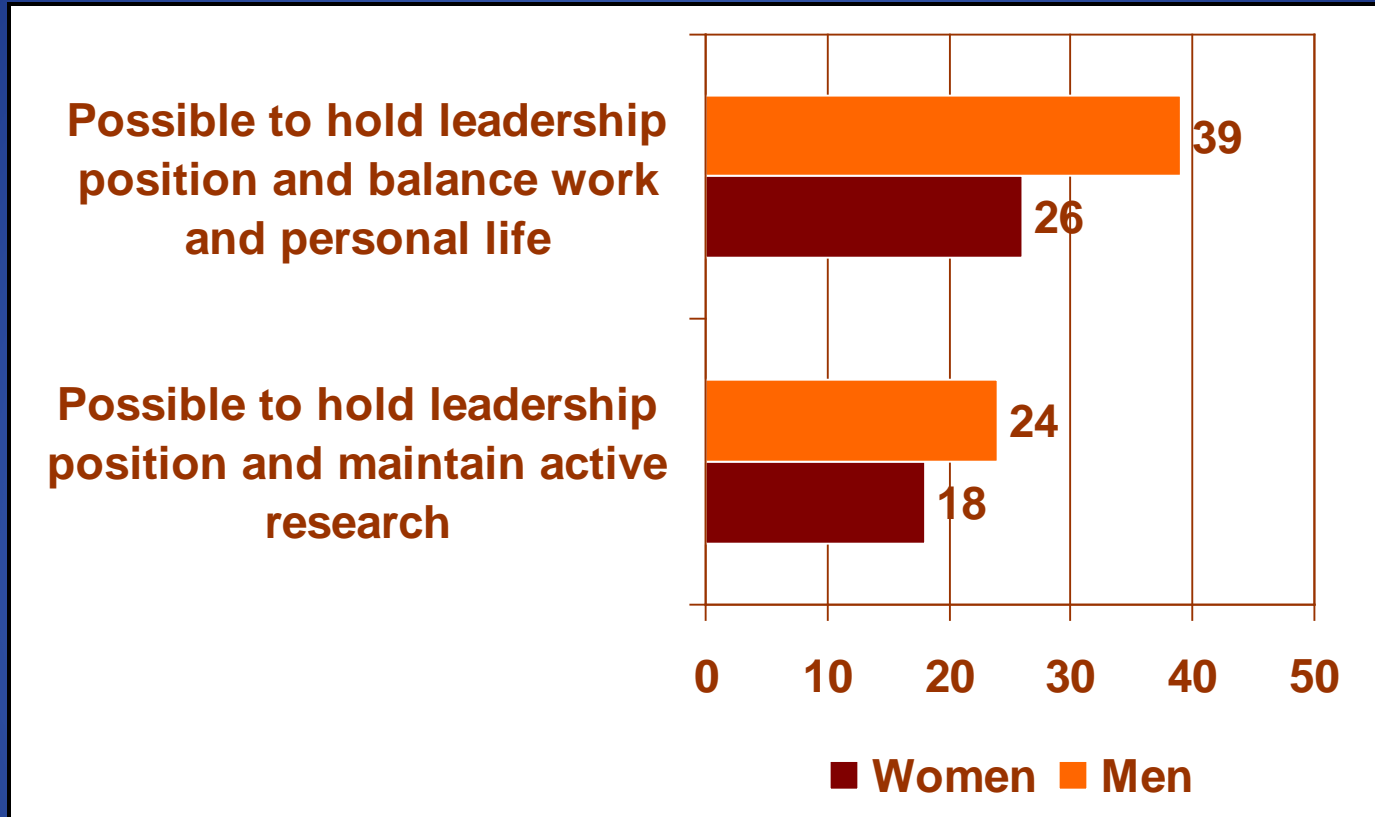
# Cultivating a Diverse Faculty Leadership

*AdvanceVT* assists Virginia Tech in preparing, recruiting, and retaining high quality and diverse faculty.

- Faculty development programs
- Workshops and seminars
- Mentoring Programs

# Faculty Survey about Leadership Positions

Percentage of tenured and tenure track men and women who strongly or somewhat agree:





# Leadership Development Programs

- Research seed grants (22 awarded)
- Distinguished lectures (1-2/year)
- Faculty leadership lunches (2-3/semester)
- Leadership fellowships (6 awarded)
- Leadership development coaching program (18 participants)



# Leadership Coaching

- Three cohorts of women selected from across the university for a year of individualized coaching and skill development





# Seminars and Workshops

- Workshops to build specific skills, including communication, resolving conflict, negotiation, power and influence, and time management
- Leadership lunch seminars provide opportunities to interact with current leaders, e.g. department heads, deans, vice-presidents, provost



# Advancing Diversity Workshops

- *AdvanceVT* and Office for Diversity and Inclusion host an annual workshop "Advancing Diversity at Virginia Tech."



- Speakers have included Virginia Valian, Denice Denton, Damon Williams, Cathy Trower and Freemam Hrabowski.

# Promotion to Professor Workshop

## AGENDA

October 14, 2011

- Welcome and Introductions
- Promotion procedures
- Time in rank data
- Perspectives from recently promoted faculty
- P&T committee member perspectives
- Questions and discussion

# Mentoring

Mentoring has also been proven to be one of the common characteristics of a successful academic career, particularly for women and faculty of color (Mary Deane Sorcinelli, Associate Provost, Univ. Mass.)

## Outcomes include:

- ☐ Stronger commitment to a career in academe
- ☐ Stronger record of scholarly productivity
- ☐ More effective teaching
- ☐ Increased rates of retention/tenure/promotion
- ☐ Benefits to the mentor

(Johnson, 2007)



# VT Mentoring Project Program

Objective: Develop a tailored mentoring project that enlarges the faculty member's mentoring network and promotes successful career development for all new tenure-track assistant professors.

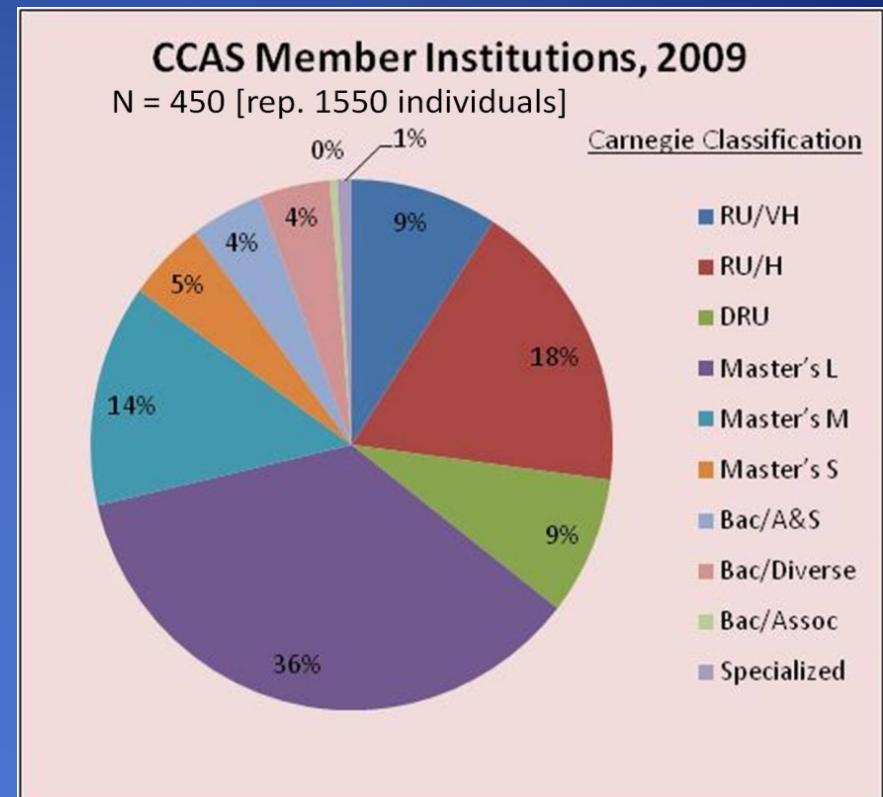
*Examples of mentoring projects:*

- *Off-campus meetings to visit a mentoring partner to learn or discuss a new research or teaching method;*
- *Editing services to proofread, fine tune, or edit a scholarly manuscript or grant for submission;*
- *Coaching services to improve writing, productivity, and/or time management skills;*
- *Travel expenses to co-present with a mentoring partner (or partners), and/or meet new or existing mentoring partners at a professional conference;*
- *Modest honoraria to bring a recognized scholar and/or teacher in your field to Virginia Tech for a departmental or interdisciplinary event, such as a seminar or workshop.*

# Council of Colleges of Arts and Sciences

## *Denise Battles, Univ. of Northern Colorado*

- Nearly 500 member institutions and 1,600 deans
- Disproportionately high representation among research institutions where gender and race/ethnicity disparities are pronounced



# CCAS ADVANCE Initiative Overview

- Central concept: effect organizational change as a means of promoting change among CCAS' member institutions
- Strategy: infuse gender equity (GE) content into CCAS' programs, to build awareness, knowledge, skills, and motivation to implement change
- Points of focus: Annual Meeting, Seminars for Chairs and New Deans, MSI chairs and deans, CCAS resources (case studies and website)

# CCAS ADVANCE Initiative Progress to Date

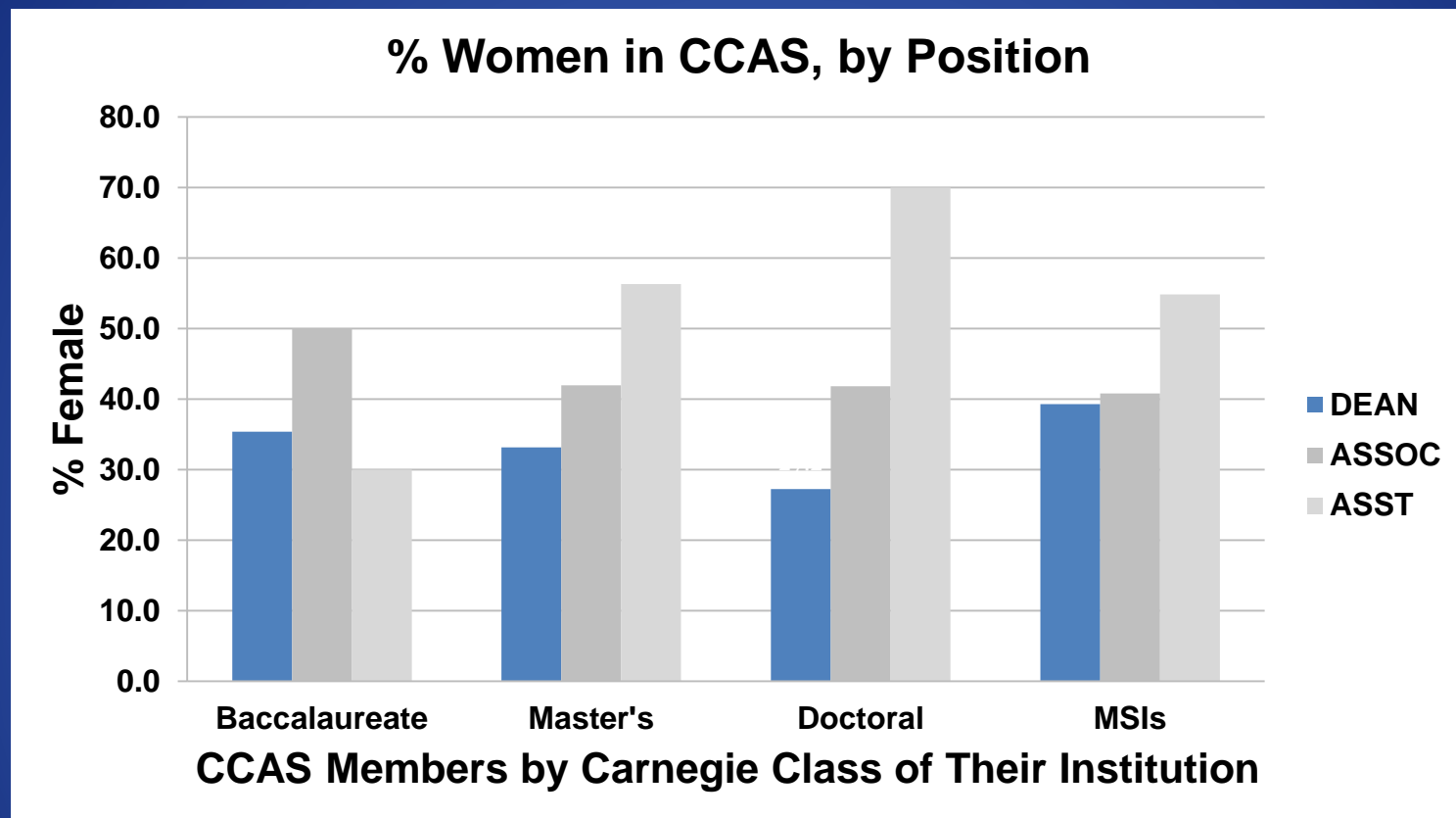
- Delivered panel, poster and/or workshop presentations at 2009, 2010, and 2011 CCAS Annual Meetings
- Incorporated GE content into CCAS seminars with targeted recruitment of MSI participants
- Developed cases with guides for chairs (5) & deans (4)
- Created project website
- Obtained and used evaluation results to inform activities
- Undertook gender demographic study of CCAS member deans



*2011 DCS case study session*



# Demographic Analysis of CCAS Deans



Data compiled by L. Huffaker based on 2010-11 CCAS membership

# CCAS ADVANCE Initiative Next Steps

- Continue incorporation of GE content into CCAS programming
- Augment GE resources available to CCAS deans
- Make available the case studies and guides
- Enhance project website
- Maximize opportunities for project sustainability
- Disseminate project results

# Themes and Recommendations

- Importance of collecting organizational data
- It's not just about getting tenure
- Be mindful of faculty roles and rewards
- Utility of individualized support as well as systemic approaches
- Constant vigilance is required
- Learn from others' highly effective practices

# Questions and Answers



# Acknowledgements for the CCAS ADVANCE Grant

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- [1] National Science Board. 2010. *Science and Engineering Indicators 2010*. Arlington, VA: National Science Foundation (NSB 10-01).
- [2] King, J.E., and Gomez, G., 2008, On the pathway to the presidency: Characteristics of higher education's senior leadership: American Council on Education, Washington, DC, 18 p.