Chair’s Conference 2012

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Status

• 1989: just over 15,000 PhDs in science and engineering were granted, 387 to Hispanic (~2.6%) and 55 to Native American (~0.4%)

• 2009: nearly 21,000 PhDs in science and engineering granted, 1,131 to Hispanics (~5.4%) and 79 to Native Americans (~0.4%).

• Source: National Science Foundation (NSF) report, Doctorate Recipients from U.S. Universities, Table 21.
Status

Sources: US Census Bureau, IPEDS Completion survey
Status

• Labor Department reports that with 14 million unemployed, there are 3.4 million jobs unfilled (*Dated*)
  – Skills gap (Mostly STEM skills)

• 22% of entering college students major in a STEM discipline, 14% of college grads graduate in a STEM discipline.
What We *Know*

- Research shows that attrition has been consistently higher among students from underrepresented groups.
- Research has shown for doctoral candidates attrition primarily the result of institutional policies, procedures, and environment rather than the “fault” of students who begin doctoral studies.
What We Know

• Undergraduates face similar issues
• Plus, many underrepresented students enter university more poorly prepared.
  – Under-performing public schools
  – Access/exposure to science-like activities
  – Digital Divide
  – Lack of college-life awareness
What I Think I Know

• Recruitment of underrepresented students should mirror local environment.
• Mentorship is central to success.
• Active involvement in extra-curricular STEM activities increases chances of success.
• Support services cannot be centered at the university level, but must include a strong discipline specific component.
• Exposure to the many career paths and opportunities in STEM fields has an intangible positive effect.
What / Think / Know

• Professional minority societies can play the role of mentor.
  – These societies must have a local champion in order for them to be effective.
  – If there is not a critical mass in physics (very likely), then other science professional societies should be used.
  – National Society of Black Physicists, National Society of Hispanic Physicists, SACNAS, NOBCHE, SHPE,