Building Bridges to Diversity: 
The Fisk-Vanderbilt Masters-to-PhD Bridge Program

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Physics & astronomy context

Order-of-magnitude issue:
- 25% of population
- 2-3% of physics and astronomy faculty
- 0.5% of P&A faculty at “top 50” schools

Average among PhD granting institutions:
- 1 every 13 years
Where are the minorities in STEM?

Minority-Serving Institutions

- Historically Black Colleges & Universities (HBCUs)
  - 2% of all US college enrollment
  - 25% of all African-American bachelor’s degrees
  - 50% of Af-Am bachelor’s in science/engineering

- Hispanic Serving Institutions (HSIs)

- Tribal Colleges & Universities (TCUs)

- Community colleges
  - 50% of minorities start here
Importance of Masters-PhD Transitions

Minorities ~50% more likely to earn Masters en route to PhD. More institutional transitions, with less guidance.

Lange (2005)
Fisk-Vanderbilt Masters-to-PhD Bridge Program

Get the preparation you need to earn a PhD

1. Earn a Masters degree in physics at Fisk, with full funding support.
2. Get valuable, paid research experience.
3. Receive preparation for the GRE.
4. Get fast-track admission to the Vanderbilt PhD program, with full funding support.
   - Astronomy, astrophysics, cosmology
   - Biophysics
   - Materials science, nanophysics, detector development
   - Imaging science
Masters-to-PhD Bridge Program

Key considerations:

★ Not a “back door”: Must satisfy same PhD requirements as all PhD students
★ Focus on facilitating successful mentor/mentee relationships
Facilitating successful transitions:

- **Joint advising committees**: Involvement of potential PhD advisors from the start, enhanced communication and tracking of progress

- **Requirement of coursework at Vanderbilt**: Become known to Vanderbilt faculty, complete PhD requirements

- **Requirement of research at Vanderbilt**: Demonstrate ability in the lab, develop faculty advocates

- **Ancillary support**: Identify problems early on, provide tutoring where necessary

- **“Professionalization”**: Seminar on academic culture, participate in professional meetings

- **Social networks**: Orientation, “Bridge Club”
Current Fisk-Vanderbilt Students