

# Diversity: How to Make Society Programs Relevant

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Assembly of Society Officers Meeting

American Center for Physics

Washington, D.C.

29 March 2007

# Background

- High National Drop-Out Rate
- Inadequate K-12 student preparation
- Underrepresented Demographics (Blacks & Hispanics)
- HBCU's producing minority physicists
- Major Research Institutions producing minority physicists
- What can societies do to help?

National Drop-out Rate: ~ 30%  
~ 50% for African-Americans & Latinos



- National Assessment of Educational Progress (NAEP)

2005 12 <sup>th</sup> Graders	Reading	25%	} Below Basic Level
	Math	39%	
	Science	46%	

- HBCU's graduate more than 40% of all Black students who receive physical science degrees in the nation

- HBCU's role in the production of physicists
  - 4 Ph.D. granting institutions
  - 6 M.S. granting institutions
  - 34 undergraduate programs
  - Approx. 50% of the Ph.D.'s in physics awarded to Blacks annually are from HBCU's
- The largest producer of B.S. degrees in physics for Blacks is (was??) Xavier Univ. in New Orleans at 14 per year.

Assume that all 34 of the HBCU physics programs increase their African-American B.S. degree production levels to that of Xavier University's.

$$34 \text{ programs} \times 14 \text{ degrees/year} = 476$$

This represents 9.5% out of 5000 B.S. physics degrees awarded annually.

### The Message

HBCU's will not be able to do it alone!

Major Research Institutions must increase their production rates to achieve diversity in the field.

# Major Research Institutions

- Must play a larger role in minority degree production at the undergraduate and graduate level.
- 756 B.S. granting programs in physics!

What if every program produced just 1 minority B.S. degree in physics each year???

Institution	HBCU	Blacktot	2002	2001	2000
Hampton U	y	9	3	3	3
Howard U	y	6	1	1	4
Alabama A&M U	y	6	0	4	2
Mass Inst of Tech (MIT)		4	2	0	2
Michigan-U of, Ann Arbor		3	1	1	1
CA-U of, San Diego		3	1	1	1
Georgia Inst of Tech		3	1	2	0
AL-U of, Birmingham		1	0	0	1
Stanford U		1	0	1	0
Stanford U (Appl Phy)		1	0	0	1
Florida State U		1		1	0
Chicago-U of		1	0	1	0
Harvard U (Appl Sci)		1	0	1	0
Minnesota-U of, Minnpls		1	1	0	0
Washington State U		1	1	0	0
Washington U		1	0	1	0
Nevada-U of, Las Vegas		1	1	0	0
Cornell U		1	1	0	0
Cornell U (Appl Sci)		1	1	0	0
SUNY-Stony Brook U		1	1	0	0
NC-U of, Chapel Hill		1	1	0	0
Ohio State U		1	1	0	0
Pittsburgh-U of		1	1	0	0
Brown U		1	0	0	1
Michigan Technological U		1	0		1

# What can societies do?

Join together and focus efforts to improve diversity in a coherent way.

**Physics Diversity Council**

# Session II

- “No Child Left Behind: Intentions and Implications for Science”  
Patricia O’Connell Johnson, Department of Education
- “What the Numbers Tell Us”  
Roman Czujko, Statistical Research Center, AIP
- “Successful Minority Program at a Minority Serving Institution”  
Joseph A Johnson, III, Florida A&M University
- “Successful Minority Program at a Major Research University”  
Brad Orr, Applied Physics Program, University of Michigan
- Open Discussion