

FISHER V. UT - DISCUSSING RACIAL EQUITY IN PHYSICS

CONTEXT FOR AFFIRMATIVE ACTION POLICIES IN TEXAS

- In a **previous case (1996)**, lower court ruled that UT could not consider race in admissions process
- **Ten Percent Plan** - guarantees that a student in the top ten percent of their class is admitted into any state-funded Texas university
 - Increased geographic diversity (racially-segregated sectors)
 - 75% of slots were filled with this plan, 25% filled considering factors like class rank, special skills, leadership, and economic status [[UT News](#)]
- **(2003)** Supreme Court ruled that considering race & ethnicity in admissions was constitutional

[NPR]

FISHER V. UNIVERSITY OF TEXAS at AUSTIN (2015)



*Abigail Fisher at the
Supreme Court*
[\[NPR\]](#)

- **Abigail Fisher** stated that she and other white applicants were denied admission to the school because of their race.
- **UT's response:**
 - rejected the notion that they admitted less-qualified minority students
 - Fisher's test scores & grades were "sufficiently low that she would not have been admitted under any circumstances".

FISHER V. UNIVERSITY OF TEXAS at AUSTIN (2016) ruling

4-3 ruling in favor of UT

Majority Opinion:

(Kennedy): "... a college must continually re-assess its need for race-conscious review"



(Majority): Justices Anthony Kennedy, Ruth Bader Ginsburg, Steven Breyer, Sonia Sotomayor

Dissenting Opinion:

During trial, Roberts asked:
"What unique perspective does a minority student bring to a physics classroom?"



(Dissenting): Justices Samuel Alito, John Roberts, Clarence Thomas

*Justice Elena Kagan recused herself (previously served as solicitor general for this case)

[[NPR](#)], [[Balletopedia](#)]

PUSHBACK FROM THE PHYSICS COMMUNITY

The **Equity & Inclusion in Physics & Astronomy group** wrote an open letter to the Supreme Court [[link to letter](#)]:

- Supporting affirmative action
- Acknowledging that racial equity means more work beyond admissions
- Within the rebuttal:

“we note that it is important to call attention to questions that weren’t asked by the justices, such as, ‘What unique perspectives do white students bring to a physics class?’ and ‘What are the benefits of homogeneity in that situation?’ ”

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Statements were also written by the **American Physical Society president, Sam Aronson** [[link](#)], and the **American Association of Physics Teachers** [[link](#)], which the latter emphasized:

“Women and People of Color do not need to justify their presence in physics classrooms”



COMMON MISCONCEPTIONS IN OUR FIELD

“What unique perspective does a minority student bring to a physics classroom?”

- Physics is a “culture of no culture” [[Traweek \(1992\)](#)]
 - we flaunt our field’s objectivity and assume it largely does not engage with society’s problems
- Increasing diversity in our field will only diminish its “value” or “rigor”
 - The minorities in physics must be exceptionally talented among their demographic in order to “belong”
- People in minority groups are simply **not interested in pursuing physics**

ANSWERING THE DISSENTING OPINIONS / MISCONCEPTIONS

- Physics, as a field, contains *subjectivity*, in the sense of privilege & bias [[G. L. Cochran et al \(2021\)](#)]:
 - *who does physics?*
 - *who is impacted by our work?*

ANSWERING THE DISSENTING OPINIONS / MISCONCEPTIONS

Race and Ethnicity of Physics PhDs, Classes of 2018 and 2019 Combined.

	Number (2-Year Average)	Percent of all Physics PhDs	Percent of US Physics PhDs*
White	860	45%	84%
Asian American	92	5%	9%
Hispanic American	42	2%	4%
African American	9	<1%	1%
Other US Citizens	20	1%	2%
Non-US Citizens	887	47%	-
Total	1,910	100%	100%

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Race of Physics PhDs for 2018 and 2019
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 - *who does physics?*
 - *who is impacted by our work?*
- Minorities in Physics, especially POC, have been systematically discouraged to join this field. They have the right to pursue physics in an accessible way, without justifying themselves.

ANSWERING THE DISSENTING OPINIONS - BEYOND HOMOGENEITY

Having diverse backgrounds in physics will

- Change the climate of our field, reflect new values:
 - *stronger communities for minorities in physics*
 - *address the systematic barriers for POC to become professional physicists*

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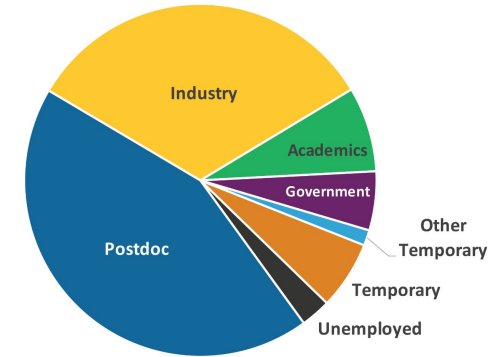
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- Lessen the harm towards those who are impacted by people in STEM. For example:
 - *Telescopes on Indigenous lands [1,2],*
 - *Nuclear waste disposal on Indigenous lands [3,4],*
 - *Racial discrimination with machine learning algorithms [5]*

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Initial Outcomes
1996, 1997, 2000, and 2001 Physics PhD Recipients.



Includes only degree recipients who remained in the US.

10-year study of Physics PhDs,
with about 40% pursuing postdocs
[\[American Institute of Physics\]](#)

DISCUSSION QUESTIONS

1. How can universities continue to work towards racial equity if decisions like Fisher v. UT are overturned?
2. How do we respond to peers in our field who are hesitant / skeptical about increasing diversity?

BARRIERS FOR PEOPLE OF COLOR TO PARTICIPATE IN GRADUATE PHYSICS PROGRAMS

[[G. L. Cochran et al \(2017\)](#)]

Conducted a study from 2013-2016 of the [APS Bridge program](#): a 2-yr post-baccalaureate program designed to help racial/ethnic minority students prepare for physics graduate program applications

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Phase 1:

- Analyzed responses on the application form, including:
 - “Have you applied to any graduate programs? If no, please explain why.” - among other questions
 - (2013-2016): 95 applicants expressed interest in graduate studies, but did not apply to any graduate schools
 - (2013): explanation was optional and no one responded
 - (2014-2016): explanation was required

Phase 2:

- Conducted semi-structured interviews with participants from the 2016 cohort - 9 out of 20 volunteered / were available.



FIVE COMMON THEMES [[G. L. Cochran et al \(2017\)](#)]

1. GRE (general + physics)
 - took the test multiple times, unhappy with scores (GRE score is better indicator of gender & race [[Miller & Stassun \(2014\)](#)])
 - lacking money to invest in test

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 - lacking money to invest in test
2. Student research experience
 - lacking experiences, related to the last three items
3. Student grades/GPA
4. Deadlines/timelines for applying
5. Financial concerns
 - unsure of how to support family w/ research / grad school

SUGGESTED ACTIONS - GRADUATE SCHOOLS & ACCESSIBILITY [[G. L. Cochran et al \(2017\)](#)]

- (Reviewers) rely less on single measures of success (GRE, research experience, etc)
 - be especially mindful of financial barriers & how that impacts the applicant; initial setbacks may not indicate potential
- (Advisors/Professors) provide guidance for students regarding
 - timelines for applications & GRE
 - schools that do not require GRE
 - how physics PhDs are financed

COMMON EXPERIENCES BETWEEN WOMEN OF COLOR IN PHYSICS [[Johnson et al \(2017\)](#)]

- Combining two studies: a) **NSF 20-yr study** of women in STEM, 17 in physics & astrophysics;
b) **Ethnography** of women in physics, math, computer science depts at a liberal arts university.



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Common struggles:

- Isolation
- Stereotype threat (being aware of bias against someone causes them to perform negatively)
- Microaggressions
 - Including classroom and research settings

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Common solution:

- Locating a 'counterspace'
 - Including communities internal & external to their depts

SUGGESTED ACTIONS - INSTRUCTOR ROLES [[Johnson et al \(2017\)](#), [G. L. Cochran et al \(2021\)](#)]

- Provide/mention resources for students
[tutoring, making supportive communities more visible]
- Reconsider your own bias for a “good physics student”
- Teach with a growth mindset rather than fixed mindset
- Be mindful of what you give ‘value’ to
 - Who’s work and societal context you choose to include/exclude in lecture (march of lone geniuses)
 - How you define the “nature of physics” & essential skills
- Respond to microaggressions / reject stereotypes

DISCUSSION QUESTIONS

1. What can we do to make our department a more welcoming environment for POC in physics?
2. What are other things that we can do to be more equitable while teaching?

