

# #ShutDownSTEM: Making Black Lives Matter in Physics

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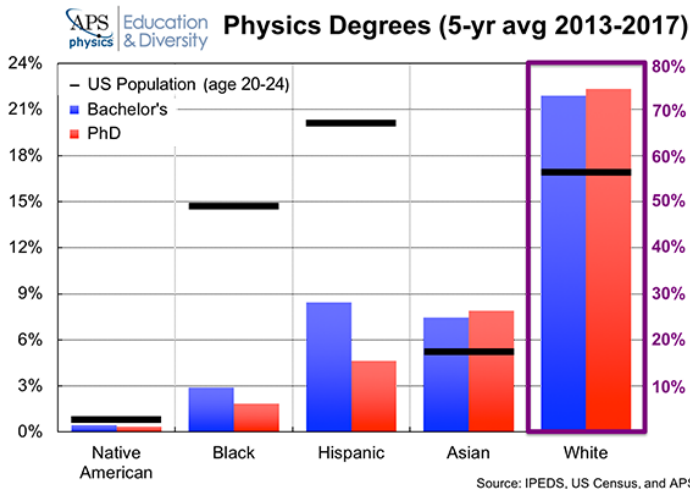
Univ. of Virginia

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# #BLACKLIVESMATTER

# The Problem

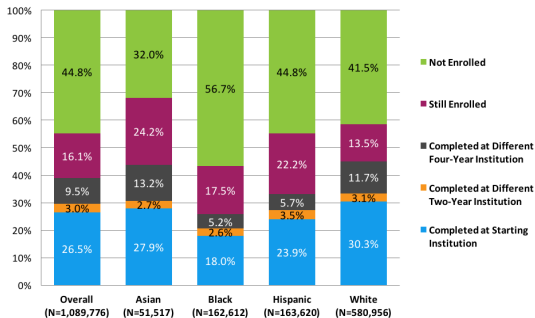
# Physics Degree Demographics



Black students in physics receive degrees almost a factor of 5 below parity  
*Source: APS Statistics*

# Even Worse: Retention of Black Students

- Before jumping to conclusions about who is or isn't "interested" in postsecondary education. . .
- Black students at American college have far worse outcomes
- Six-year graduation rate is lower than any other racial category
- Black students earned 13% of bachelors degrees conferred during same period



Six year graduation outcomes for students by race

Source: National Center for Education Statistics, National Student Clearinghouse Research Center

# Worst: College Access Gap, The Ivy League

<b>Black Population (Age 20-24)</b>	<b>14%</b>
<b>US College Black Enrollment</b>	<b>13%</b>
Harvard University	6.9%
Princeton University	7.6%
Yale University	7%
Columbia University	7.5%
Brown University	6.2%
University of Pennsylvania	7.1%
Cornell University	6.6%
University of Chicago*	5.3%
Stanford University*	6.7%
Massachusetts Institute of Technology*	6.2%
Duke University*	8.2%
California Institute of Technology*	1.4%

Source: [collegefactual.com](http://collegefactual.com)

\*Not Ivy league, but competitive admissions

# Worst: College Access Gap, Top Public Schools

<b>Black Population (Age 20-24)</b>	<b>14%</b>
<b>US College Black Enrollment</b>	<b>13%</b>
UCLA	3.4%
UC Berkeley	1.7%
University of Michigan	4.2%
Georgia Tech	6.6%
UNC Chapel Hill	8%
UC Santa Barbara	2.3%
University of Florida	6.3%
University of Wisconsin	2.2%
UC Irvine	1.9%
UT Austin	4%
University of Illinois UC	5.8%
UC Davis	2.2%

Source: [collegefactual.com](http://collegefactual.com)

# Worst: College Access Gap, US Largest Campuses

<b>Black Population (Age 20-24)</b>	<b>14%</b>
<b>US College Black Enrollment</b>	<b>13%</b>
Texas A&M	3%
University of Central Florida	11.2%
OSU	5.8%
Florida International University	12.5%
University of Minnesota	4.5%
Arizona State	3.8%
<b>Georgia State</b>	<b>41.8%</b>
University of South Florida	10.3%
Michigan State	7%
Indiana University	4.4%

Source: [collegefactual.com](http://collegefactual.com)

# Worst: College Access Gap, PREX/CREX Collaboration

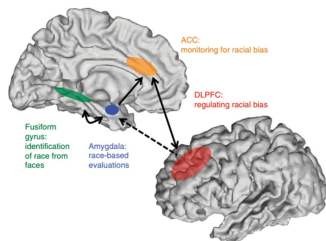
<b>Black Population (Age 20-24)</b>	<b>14%</b>
<b>US College Black Enrollment</b>	<b>13%</b>
Stony Brook University	6.7%
University of Virginia	6.6%
William & Mary	7.1%
Ohio University	5.6%
Temple University	12.5%
Syracuse University	7.2%
Carnegie Mellon	4.3%
Louisiana Tech	12.1%
UMass - Amherst	4.4%

Source: [collegefactual.com](http://collegefactual.com)



# What We've Tried in the Past that Does Not Work

- Trying to find quantifiable neurological evidence of race prejudice
- Reductionist: no one can create a model of racism in terms of its base components
- fMRI data applicability is sketchy at best
- Results taken from a controlled lab environment don't scale up to the real world easily



This is your brain on racism!

- Especially for physicists: trying to introduce the notion of “first principles” to the social sciences and humanities is downright absurd
- Scientism is based on the false stereotype of the science lab as a “value-neutral zone” where outside considerations can be checked at the door
- Elides the meaningful distinctions between “observer” and “subject” and who gets to be considered who

## Philip Kitcher, “The Trouble with Scientism” (2012)

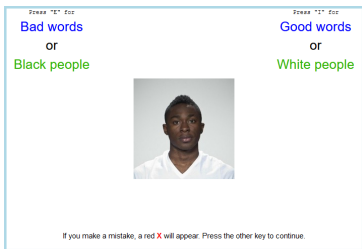
“We are finite beings, and so our investigations have to be selective, and the broadest frameworks of today’s science reflect the selections of the past. What we discover depends on the questions taken to be significant, and the selection of those questions, as well as the decision of which factors to set aside in seeking answers to them, presupposes judgments about what is valuable. Those are not only, or mainly, scientific judgments. In their turn, new discoveries modify the landscape in which further investigations will take place, and because what we learn affects how evidence is assessed, discovery shapes the evolution of our standards of evidence. Judgments of value thus pervade the environment in which scientific work is done.”

## Implicit Bias Theory

Theorizes that we are all subject to unconscious biases based on our assumptions and associations that affect our everyday interactions with people. These biases can arise from exposure to stereotypes or from cultural factors.

- Foundations of the theory go back to Charles' Lawrence's "The Id, The Ego, and Equal Protection: Reckoning With Unconscious Racism" (1987)
- Has become increasingly popular with "diversity experts" over past decade
- You can get tested for "unconscious bias" (even over the internet)
- Has wide-ranging political implications:
  - Academic, medical, and corporate diversity initiatives
  - Police "anti-racism" training
  - Supreme court jurisprudence
- Already has legal foundation in *Washington v. Davis* (1976)
- Prominent Proponents: Mahzarin Banaji, Jerry Kang

# What Implicit Bias Theory Gets Wrong

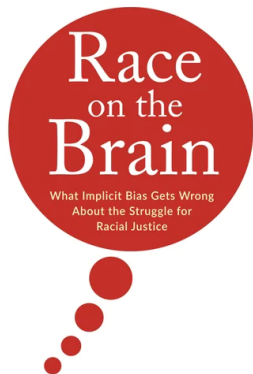


A screenshot of the online IAT. Here I am being asked to put both pictures of Black people and “negative” judgments in the same category, as well as putting pictures of white people and “positive” judgments

- The Implicit Association Test (IAT) measures associations between positive and negative attributes and groups of people (i.e, do you associate “goodness” with white people)
- Uses this to draw a numerical measure of your biases
  - Creates this sort of “metric-philial”
- Only seeks to measure biases binaristically
- Makes no clear indication about the source of bias
- Test developed based on studies on almost homogeneously white college-aged students

# What Implicit Bias Theory Gets Wrong

JONATHAN KAHN



Jonathan Kahn's 2017 book "Race on the Brain" forms the bulk of the criticisms of Implicit Bias Theory listed here

- Fundamental flaw: focuses the attention on the aggressor rather than the victim
  - Buys into this essentialist view of racism
  - Centers aggressor's motivations & intentions
  - Absolves the aggressor of guilt: "It's just the way I am"
- Buys into *Washington v. Davis* jurisprudence
  - Which led to *University of California v. Bakke* (1978)...
  - ... which led to *Fisher v. University of Texas* (2016)
- Outright denies that conscious bias exists
  - Completely erases testimony of Black academics
- Suggests that racism is "solved" by a neutral IAT score

# What Implicit Bias Theory Gets Wrong

Charles Lawrence III,  
"Unconscious Racism Revisited"  
(2008)

"I argue that, while this scholarship's focus on the mechanisms of cognitive categorization has taught us much about how implicit bias works, it may have also undermined my project by turning our attention away from the unique place that the ideology of white supremacy holds in our conscious and unconscious beliefs. I find this outcome unfortunate, if unintended, as the ubiquity and invidiousness of racism was the central lesson of my article."

Chanda Prescod-Weinstein,  
"Diversity is a Dangerous  
Set-up" (2018)

"A common experience I have had as a leader in the discourse about minorities in physics is having to explain to people over and over again that not all bias is implicit and that our discourse about minorities is fundamentally flawed if a central tenet is protecting members of the majority from feeling guilty about racism, sexism, transphobia, &etc. Contemporary analyses of implicit bias centers motivations of aggressors over the impact they have on victims. This can enhance minority experiences of discrimination by marginalizing their testimony about these experiences in favor of aggressor defenses which amount to, 'It's not my fault that I'm ignorant.' "

## Angela Davis, UVA Lecture, 2018

“I am not suggesting that diversity cannot do good work, but it has to be combined with justice, Diversity without structural transformation simply brings those who were previously excluded into a system as racist, as misogynist, as it was before.”

- Misidentifies problem: creating interest for physics among minoritized communities
- Ends up attracting people who will be pushed out by white supremacist systems
- Inevitably has minoritized students/faculty doing unpaid diversity labor

### Diversity Statements

- Few ways to do right, many way to do wrong
- Comes off as performative
- Provides a well-rehearsed smokescreen for institutional racism



# What Transformative Change Looks Like

# What does “transformative” mean?

## Guiding Principle

A change is “transformative” when it works to redistribute power towards minoritized students, faculty, and staff and away from the institution.

- Redistributing power is meant to challenge whiteness
  - And as such will cause people clinging to whiteness to feel discomfort
  - Lean into this. Remember Douglass: “Power concedes nothing without a demand”
- Old systems that impede this goal must be discarded
  - Regardless of tradition
- Do NOT push this responsibility onto Black faculty and students
  - Even if you offer compensation, they still have the right to refuse extra work w/o reciprocity
  - Diversity work is WORK
- Race-neutral/colorblind language cannot be used to challenge power
  - See Kahn’s work on “deracination”

# Hire Black Faculty

- You knew this was coming. . .
  - Research shows (Grissom, 2016) that white teachers preferentially nurture white students over black students at all levels
  - Lack of black faculty invariably makes departmental “diversity” calls be performative
  - Common excuse: “We want to hire black faculty but we can’t seem to find candidates!”
    - Professional networks exist to advance Black scientists
    - National Society of Black Physicists
- “I don’t care if someone is white black, brown, or purple, as long as they’re the best candidate for the job!”
- Meritocratic argument countered by Chanda Prescod-Weinstein:
    - “it contains a negative implicit statement about minority intellects as potentially compromising quality.”
    - “the deracination of minoritized peoples fails to account for how being a minority can enhance a candidate’s ability to execute their job.”
    - “we know that test scores correlate highly with ascribed identities such as gender and race”

# Hiring Considerations

DISCLAIMER: I've never sat on a hiring committee and cannot say these concerns materially affect hiring. But still should be asked

- Will you be making a decision based on more qualities than just perceived research value and teaching ability?
- Is the candidate we're leaning towards someone who doesn't already have connections with our department?
- Am I calling out/reporting dogwhistles (i.e., "Candidate X just wouldn't be a good fit with our departmental *culture*") from committee members?
- Am I interested in BIPOC candidates beyond satisfying a diversity requirement?
- Are the people making the hiring decision involved in department diversity initiatives?
- Have our failed departmental diversity programs been analyzed and improved upon?
- Are the BIPOC candidates we're considering people who don't already have success?
- Are we only considering diverse candidates based on intersecting identities (not just checklist attributes)?

# Institutional Accountability

- Do we have departmental channels through which Black students and faculty can report racist incidents?
- Are we adequately protecting Black students and faculty from institutional reciprocity for reporting?
- Do we have departmental members who are involved in the incident recuse themselves from the investigation?
- Do we recognize that NBPOC can still be perpetrators of anti-black racism?
- Do we stand with Black students/faculty who experience racism from outside the department but within the institution?
- Do we stand behind Black students/faculty who receive racist threats/harassment over social media?
- When Black students/faculty report incidents, are we resisting the urge to police their tone?
- Do we recognize that coming forward often means great personal harm to people making allegations?

# Within the Institution

- Are we reaching out to other departments who have had successful diversity initiatives to learn from them?
- Are we engaging with historians about the history of physics and its involvement in racist/fascist movements historically?
- Are we learning how science is and has been used to advance ideological and policy goals?
- Is our department learning how we can divest from local/university police departments?
- Are we reaching out to gender/ethnic studies departments to learn how to make our anti-racism concrete?
- Are we standing with these departments when they are attacked by the federal government up to and including the president?
- Are we standing with these departments when their funding is being slashed by institutional austerity?
- Are people doing diversity work for us also doing research & reading about anti-racism in education?

# Our Departmental Culture

- Do we recognize that the United States was founded as a settler-colonial project based on black chattel slavery and indigenous genocide?
- Do we recognize this legacy is a continued source of stress and discomfort for our BIPOC student/faculty?
- Are we aware that hypervisibility is itself a major stress for minoritized students/faculty, and are we ameliorating that?
- Do we offer a space where Black students/faculty can decompress or vent without fear of reprisal?
- Are we ready to accept we may be called to answer for incidences of our own racism & bigotry?
- Once called to task, are we ready to make changes, even if it means being critical of our own culture?
- Do we give material support to our Black students/faculty to attend events/symposia dedicated primarily to Black scholarship?
- Do we allow our Black students/faculty the time/resources to engage others about science?
- Do we fundamentally affirm the face of institutional invalidation that Black Lives Matter?

# Summary






- Black students are underrepresented in physics, as well as most major institutions
- Diversity initiatives, though well-meaning, are counterproductive to undoing this
- Specifically avoid:
  - Using science to attack the problem
  - Implicit bias training
  - Diversity initiatives without institutional change
- Institutional changes must:
  - be centered around the lived experiences of BIPOC students/faculty
  - challenge entrenched whiteness
  - avoid race-neutral language or policies
  - be ready to address incidents of racism when they arise
  - allow everyone to be held to account, from undergrads up to the university president

## Final Lesson





Any group that does not explicitly reject the social conditions of the hegemonic culture will end up reproducing them in full.



# Bibliography

-  Kahn, J. *Race on the Brain: What Implicit Bias gets Wrong about the Struggle for Racial Justice*. Columbia University Press, New York, NY, 2017. Print.
-  Prescod-Weinstein, C. (24 Jan 2018). "Diversity is a Dangerous Set-up." *Medium*, Web Link.
-  Kitcher, P. (4 May 2012). "The Trouble with Scientism." *The New Republic*, Web Link.
-  Lawrence III, C. R. (2008). "Unconscious Racism Revisited: Reflections on the Impact and Origins of "The Id, the Ego, and Equal Protection." *Connecticut Law Review*, 40(931), 933-977.
-  Grisson, J. A., Redding C. (2016). "Discretion and Disproportionality: Explaining the Underrepresentation of High-Achieving Students of Color in Gifted Programs." *AERA Open* 2(1), 1-25.

# Bibliography

-  Kahn, J. (2018). *Race, Law and Neuroscience: Some Explicit Problems with Implicit Bias*, [Presentation] YouTube Link.
-  Prescod-Weinstein, C. (28 Sep 2019). "The Rules of the Diversity and Inclusion Racket." *The Riveter* Web Link
-  Serven, R. (27 Mar 2018). "In Charlottesville talk, Angela Davis reflects on the impact and intersectionality of political movements." *The Daily Progress* Web Link
-  Rizga, K. (September 2016). "Black Teachers Matter." *Mother Jones* Web Link