



---

# The New England Academic Workforce Pipeline

---

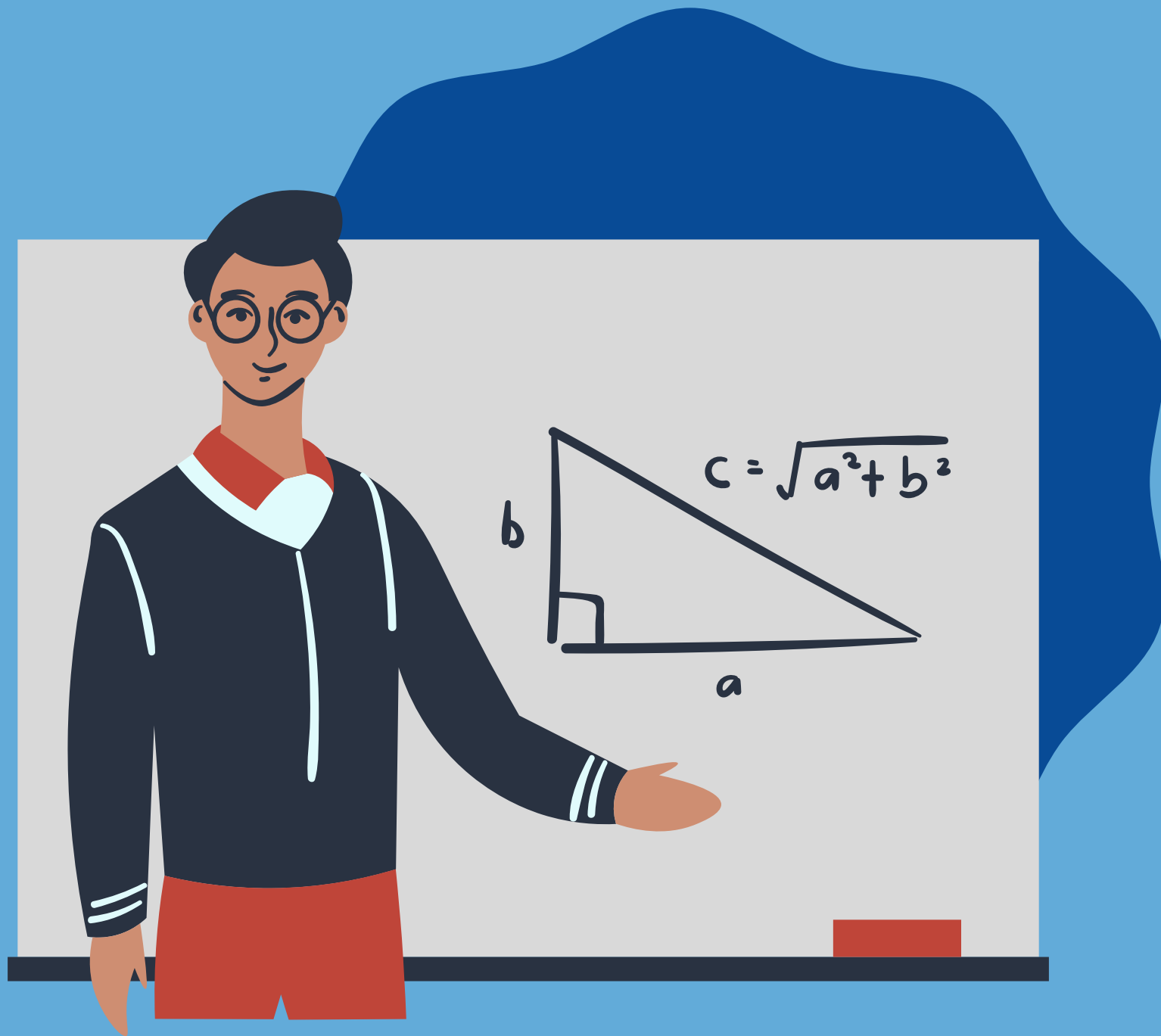
INCREASING DIVERSITY WITHIN DOCTORAL DEGREE PROGRAMS AND  
PREPARING UNDERREPRESENTED SCHOLARS FOR SUCCESSFUL  
ACADEMIC CAREERS

BY: STEPHANIE M. MURPHY

FALL 2021 BOARD MEETING | SEPTEMBER 24, 2021



# Research shows...



**THAT LACK OF DIVERSITY IN THE POSTSECONDARY FACULTY WORKFORCE LARGELY STEMS FROM EARLY STAGES OF THE FACULTY DEVELOPMENT PIPELINE.**

Doctoral degree program participants and completers in New England are substantially less diverse than the undergraduate college-enrolled population.

And among those who earn a doctoral degree there are few racial differences in rates of initial teaching employment or retention.

Efforts to improve professoriate workforce diversity should likely focus on diversifying the initial pool of doctoral degree program participants and improving their completion rates

Sources: [Sowell, R., et al. \(2015\). "Doctoral initiative on minority attrition and completion"](#); [Okahana, H., & Zhou, E. \(2019\). "Graduate enrollment and degrees: 2008 to 2018"](#)

# Statistical Profile of Doctorate Recipients in the U.S.: 2019

			Time to Degree From		
	% of Pop.	Median Age at Doctorate	Bachelor's	Grad School Start	Doctoral Program Start
WHITE	43.5%	31.6	9.3	8.3	5.3
BLACK	4.5%	36.1	12.0	9.8	5.9
HISPANIC	5.1%	32.3	9.0	7.5	5.9
ASIAN/PACIFIC ISLANDER	6.1%	31.1	8.5	7.2	5.8

Source: National Center for Science and Engineering Statistics, Survey of Earned Doctorates. Data shown for U.S. citizens only.

# Graduate Program Admissions Rates

## Need greater transparency, more data

General lack of publicly available, easily accessible data on doctoral degree program applications and admissions

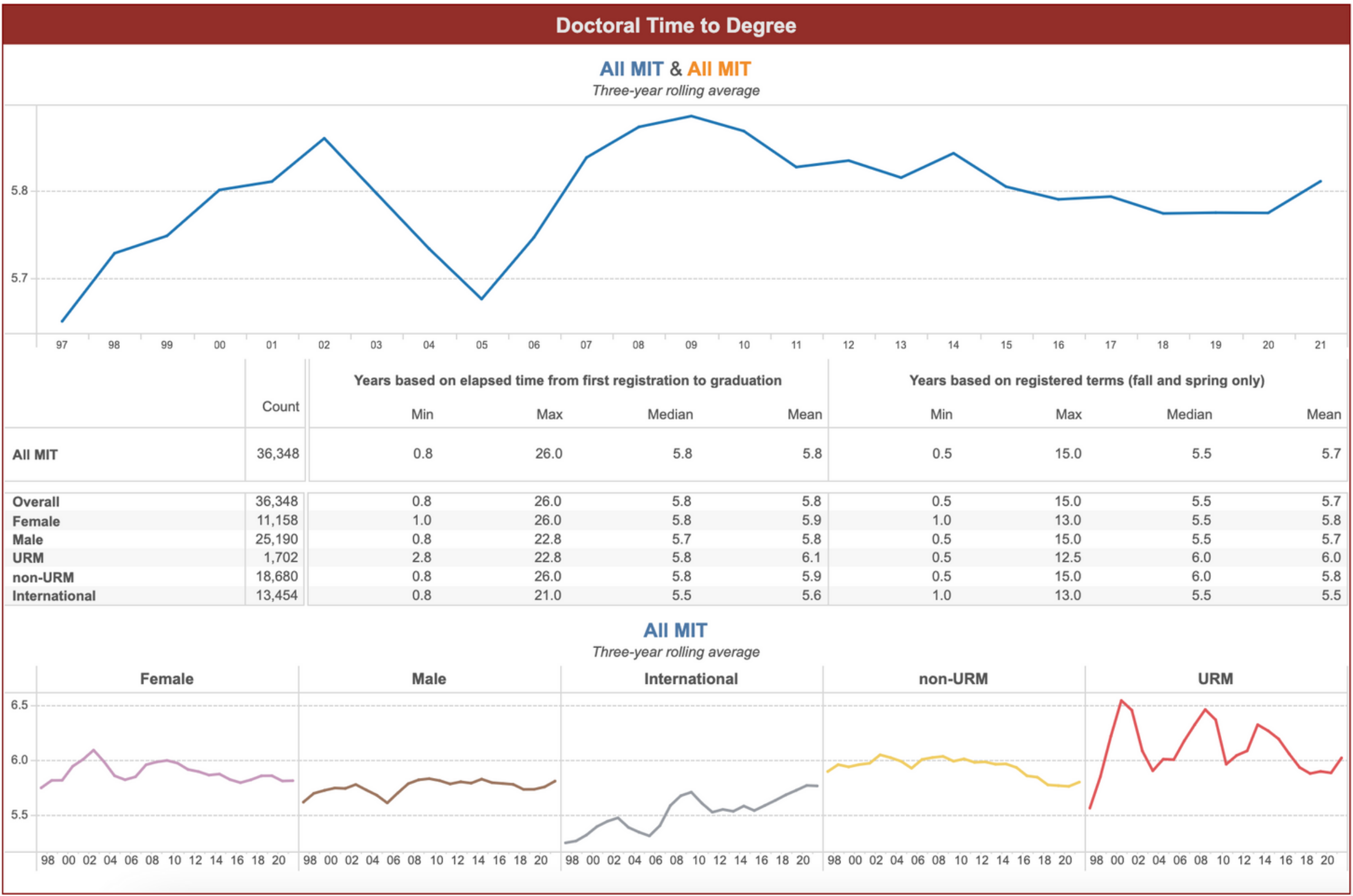
- Only **6 R1 and R2 doctoral universities** publish general **graduate** admissions data
- Only **2** publish admissions data for **doctoral degree programs**
- Only **1 — MIT —** provides data disaggregated by race/ethnicity and age



# MIT's Data Dashboard

Includes longitudinal data by gender, race/ethnicity, international status:

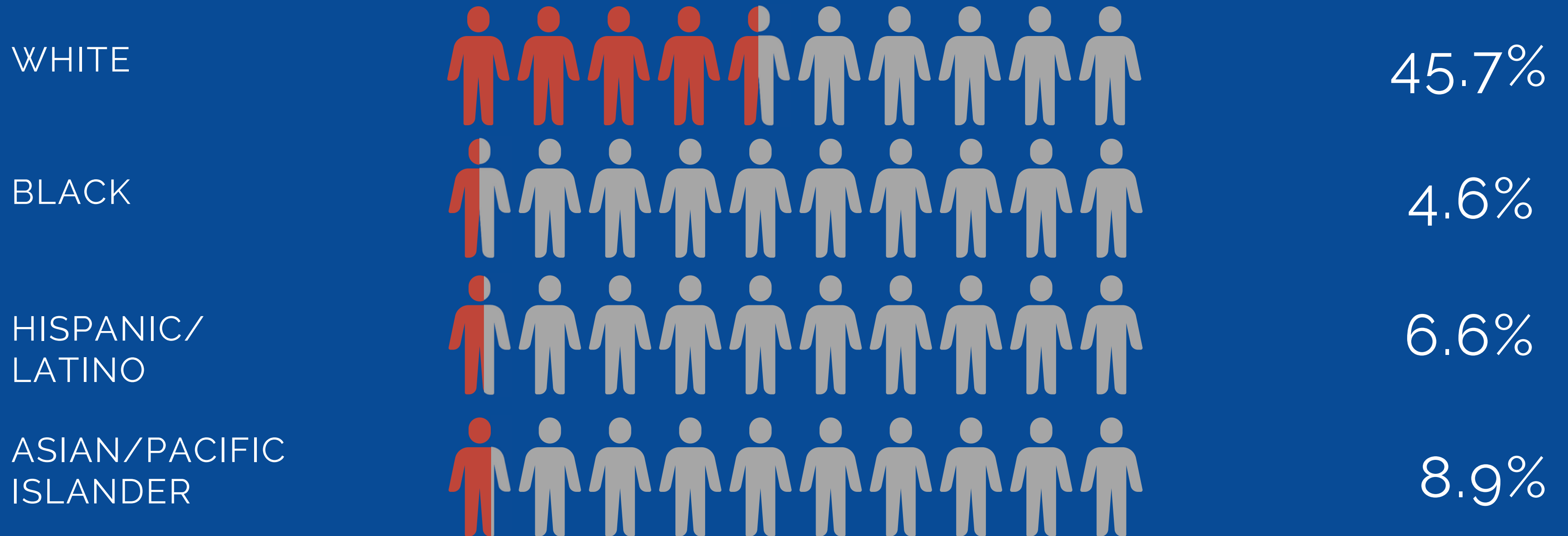
- Disaggregated by degree type (master's, doctoral)
- Disaggregated by School Department
- Applications, admissions, enrollment
- Doctoral time to degree
- Attrition
- Doctoral alumni outcomes



Source: <https://ir.mit.edu/graduate-education-statistics>

# Graduate Program Enrollment (Master's and PhD)

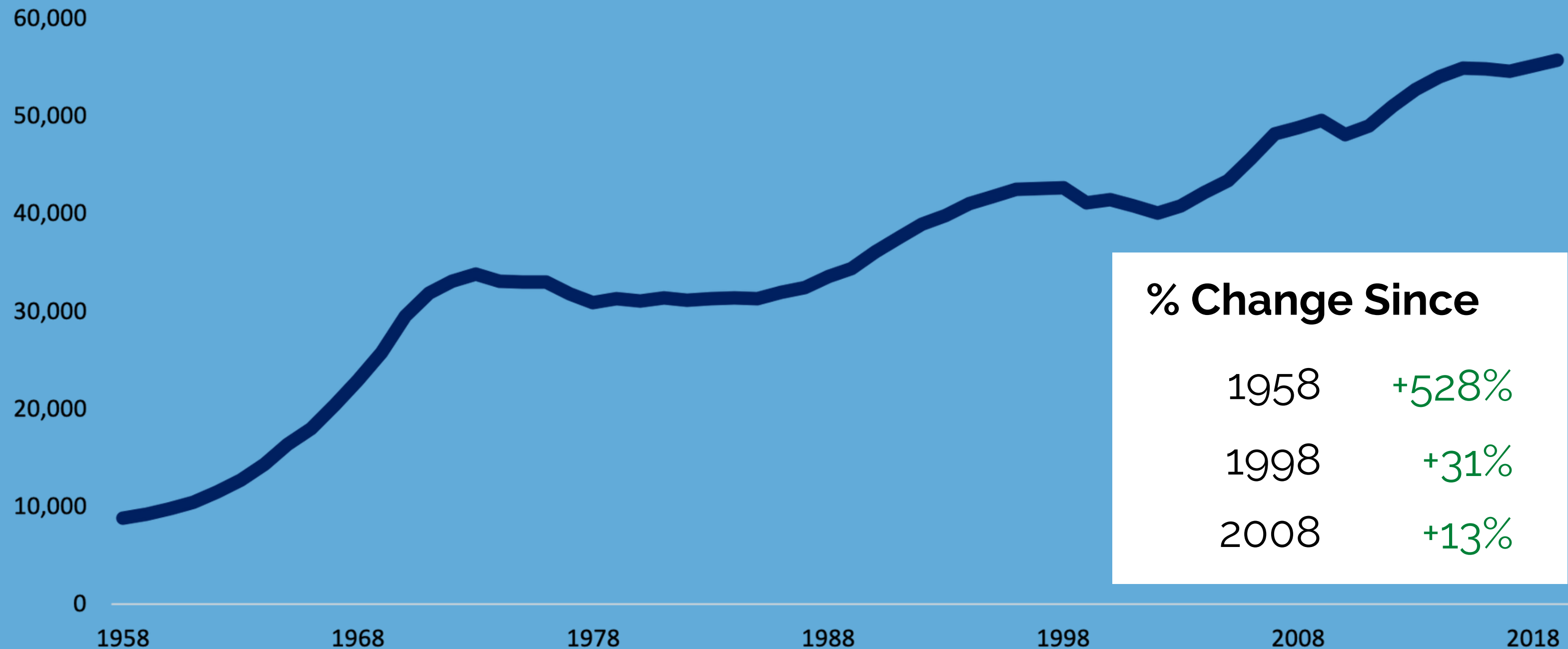
PERCENTAGE DISTRIBUTION OF STUDENTS IN GRADUATE DEGREE PROGRAMS AT NEW ENGLAND'S DOCTORAL UNIVERSITIES, BY RACE/ETHNICITY: FALL 2020



Source: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), "Fall Enrollment Survey." Institutions included are those under the Carnegie Classifications of doctoral universities with "Very High" and "High" research activity.

# Doctoral Degree Production

DOCTORATE RECIPIENTS FROM U.S. COLLEGES AND UNIVERSITIES: 1958–2018



Source: National Center for Science and Engineering Statistics, Survey of Earned Doctorates.



# Doctoral Degree Recipients, New England: AY 19-20

COMPLETIONS: NUMBER OF STUDENTS WHO RECEIVED A DOCTORATE DEGREE IN NEW ENGLAND, BY RACE/ETHNICITY: AY 2019-20

[Click image to expand.](#)

Completions: Number of students who received a doctorate degree in New England, by race/ethnicity: AY 2019-20						
Institution	State	Grand total	White	Black	Hispanic	Asian
University of Connecticut	CT	747	395	40	37	76
Yale University	CT	749	339	42	60	105
University of Maine	ME	62	39	1	3	1
University of New England	ME	435	302	21	8	43
Boston College	MA	387	236	11	22	40
Boston University	MA	1166	544	31	93	125
Brandeis University	MA	77	37	2	5	4
Clark University	MA	37	18	0	1	3
Harvard University	MA	1463	660	75	118	193
Massachusetts Institute of Technology	MA	584	187	1	21	62
Northeastern University	MA	615	272	27	36	116
Tufts University	MA	684	355	36	50	135
University of Massachusetts-Amherst	MA	364	127	10	11	10
University of Massachusetts-Boston	MA	88	44	6	6	4
University of Massachusetts-Dartmouth	MA	96	59	7	9	4
University of Massachusetts-Lowell	MA	172	98	2	2	3
Worcester Polytechnic Institute	MA	54	22	0	0	1
Dartmouth College	NH	196	93	8	12	28
University of New Hampshire-Main Campus	NH	82	54	1	3	1
Brown University	RI	354	155	12	25	49
University of Rhode Island	RI	243	182	8	9	23
University of Vermont	VT	232	165	4	19	23
Source: IPEDS data for Title-IV participating, degree-granting doctoral universities with "very high" or "high" research activity, as established by the Carnegie Classification rubric. Doctoral degrees counted include Ph.D., Ed.D., D.M.A., D.B.A., D.Sc., D.A., or D.M., as designated by the awarding institution		8,887	4,383	345	550	1,049
		Grand total	White	Black	Hispanic	Asian
	New England	8,887	49.32%	3.88%	6.19%	11.80%
	CT	1496	49.06%	5.48%	6.48%	12.10%
	ME	497	68.61%	4.43%	2.21%	8.85%
	MA	5787	45.95%	3.59%	6.46%	12.10%
	NH	278	52.88%	3.24%	5.40%	10.43%
	RI	597	56.45%	3.35%	5.70%	12.06%
	VT	232	71.12%	1.72%	8.19%	9.91%



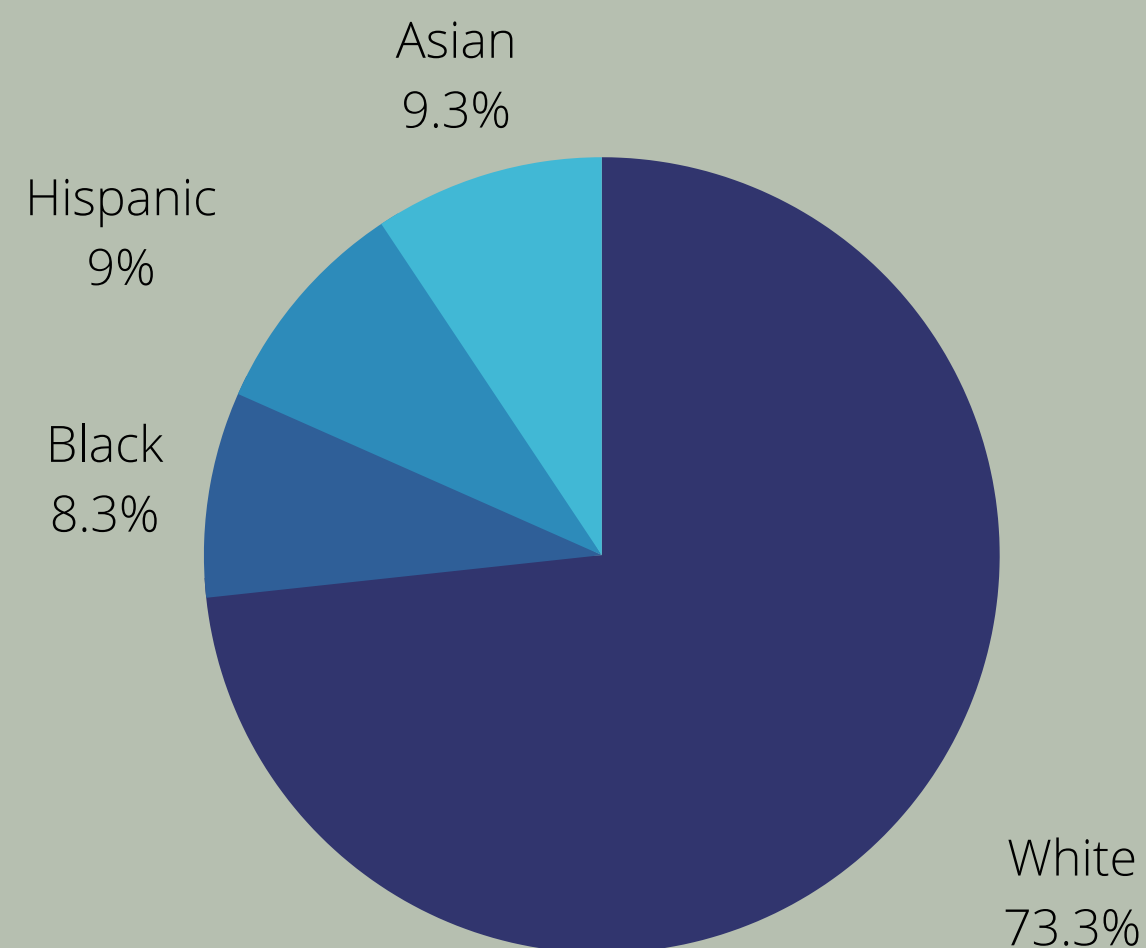
# Doctoral Degree Production by Field of Study

- LIBERAL ARTS & SCIENCES AND HUMANITIES
- SCIENCE, TECHNOLOGY, ENGINEERING, AND MATH (STEM)

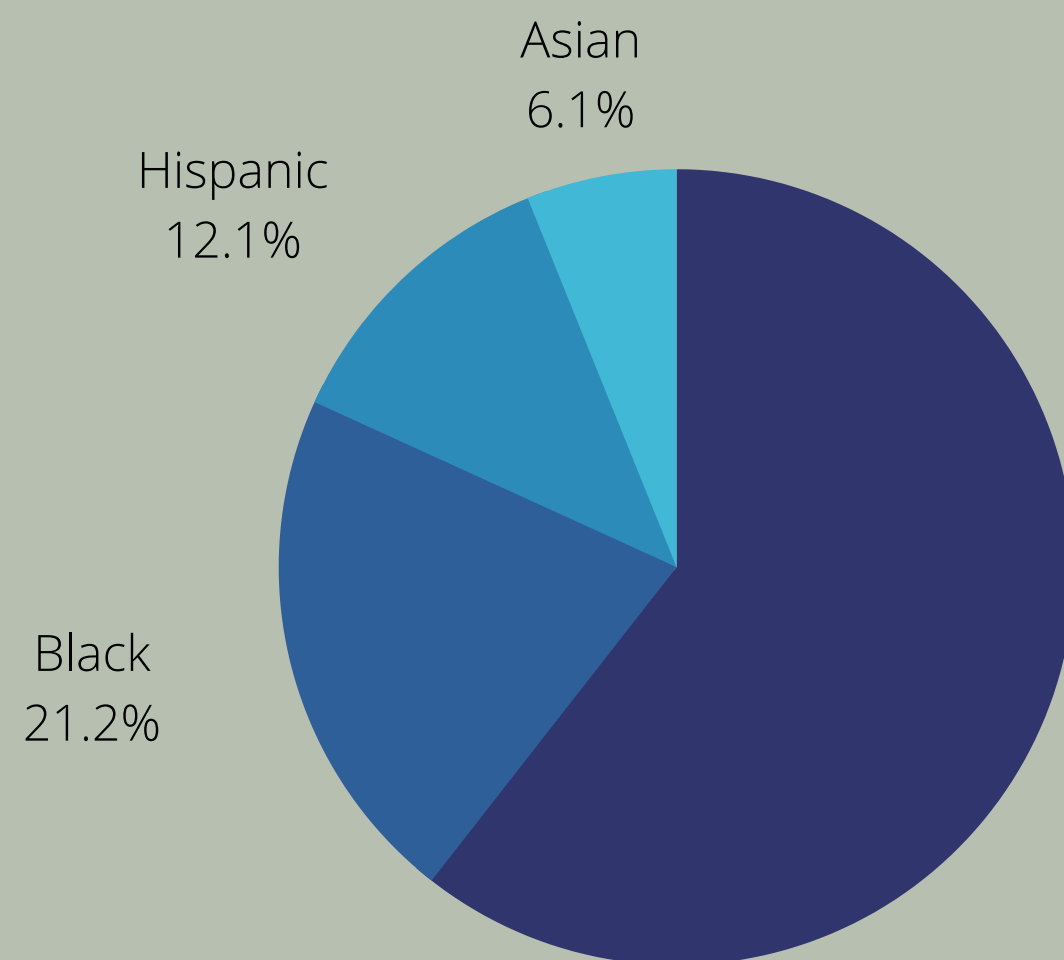


# Doctoral Degrees Conferred, U.S.: AY 19-20

## ALL DOCTORAL DEGREES

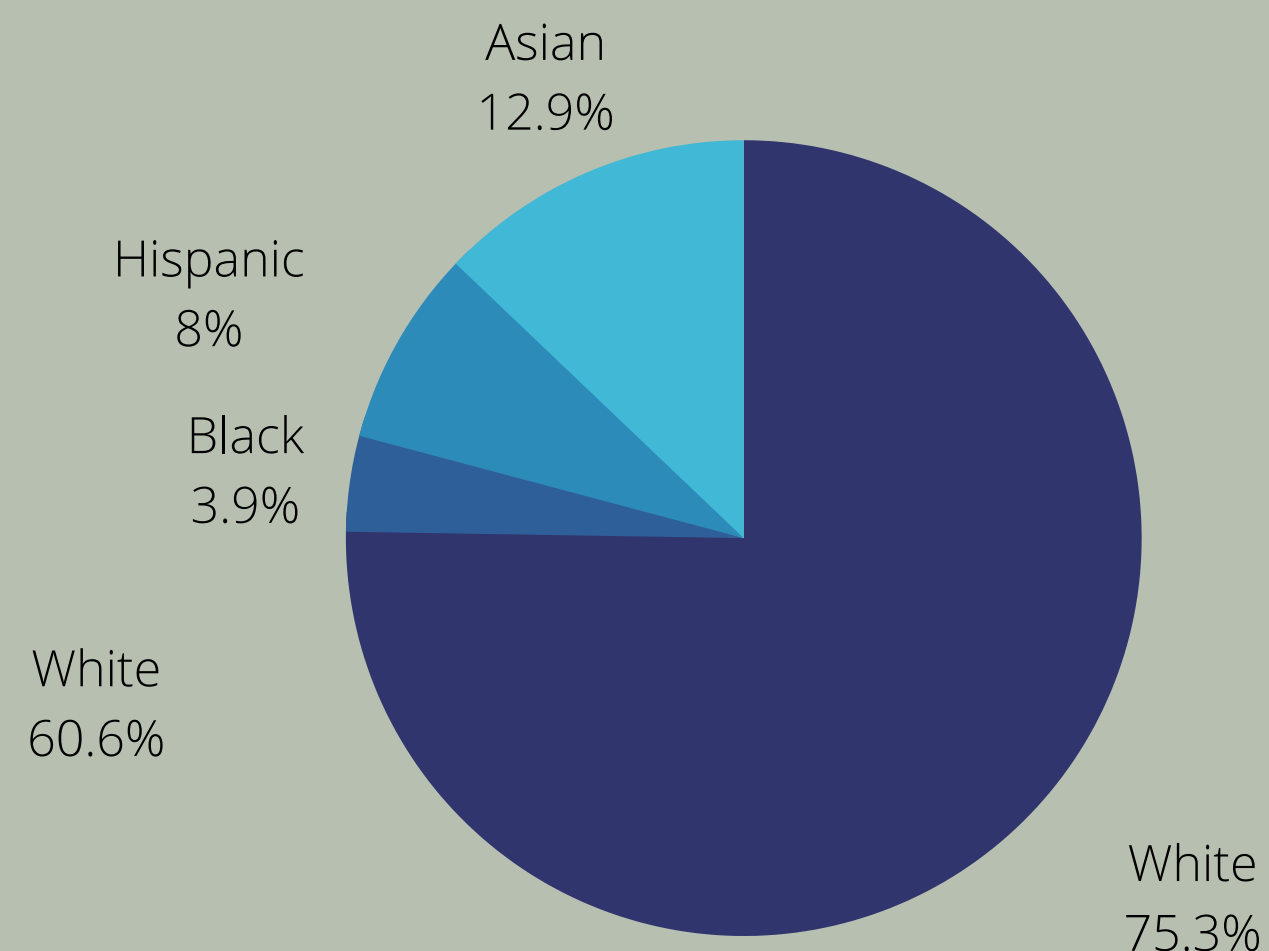


## LIBERAL ARTS & SCIENCES, HUMANITIES



0.1% of doctorate degrees conferred

## STEM FIELDS

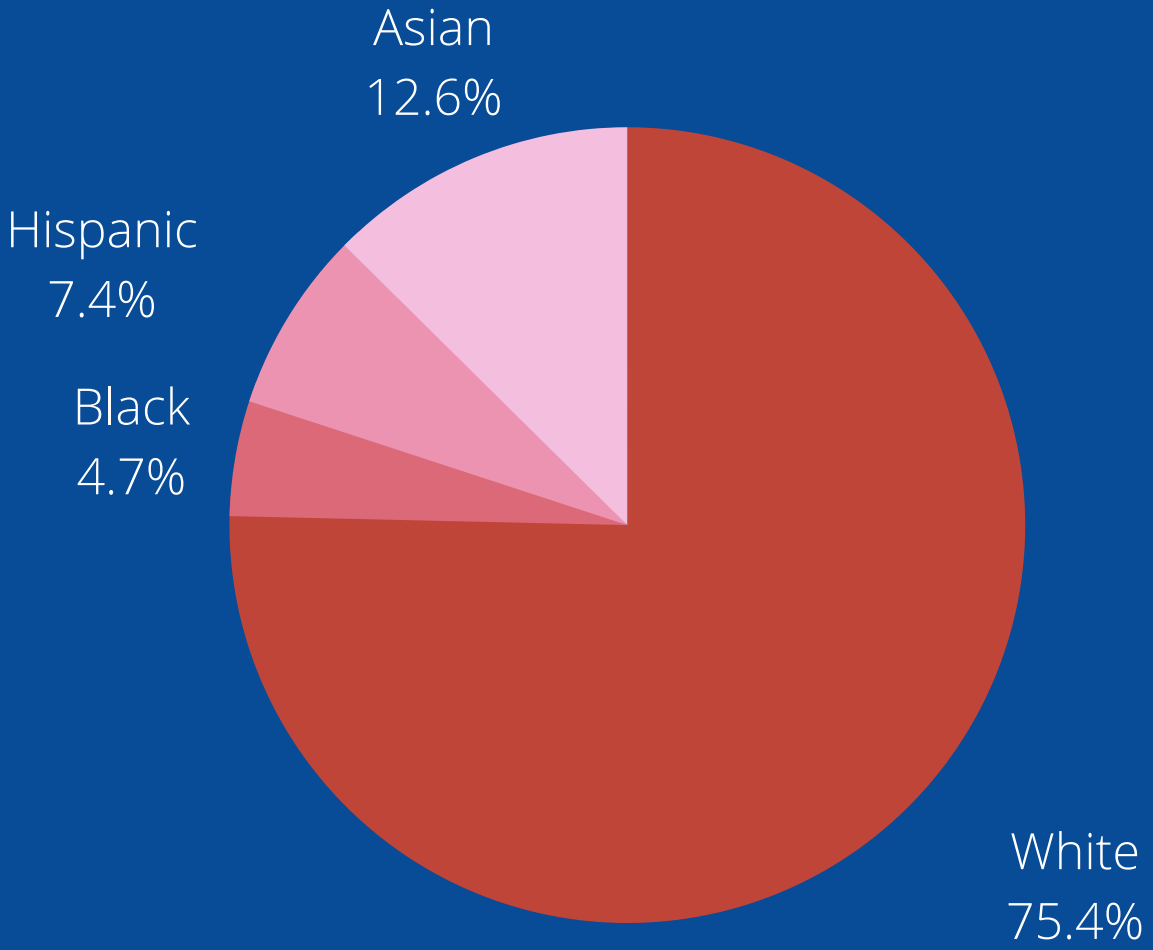


44.7% of doctorate degrees conferred

Source: NEBHE analysis of data from IPEDS for Title-IV participating, degree-granting doctoral universities with "very high" or "high" research activity, as established by the Carnegie Classification rubric. Doctoral degrees counted include Ph.D., Ed.D., D.M.A., D.B.A., D.Sc., D.A., or D.M, as designated by the awarding institution

# Doctoral Degrees Conferred, New England: AY 19-20

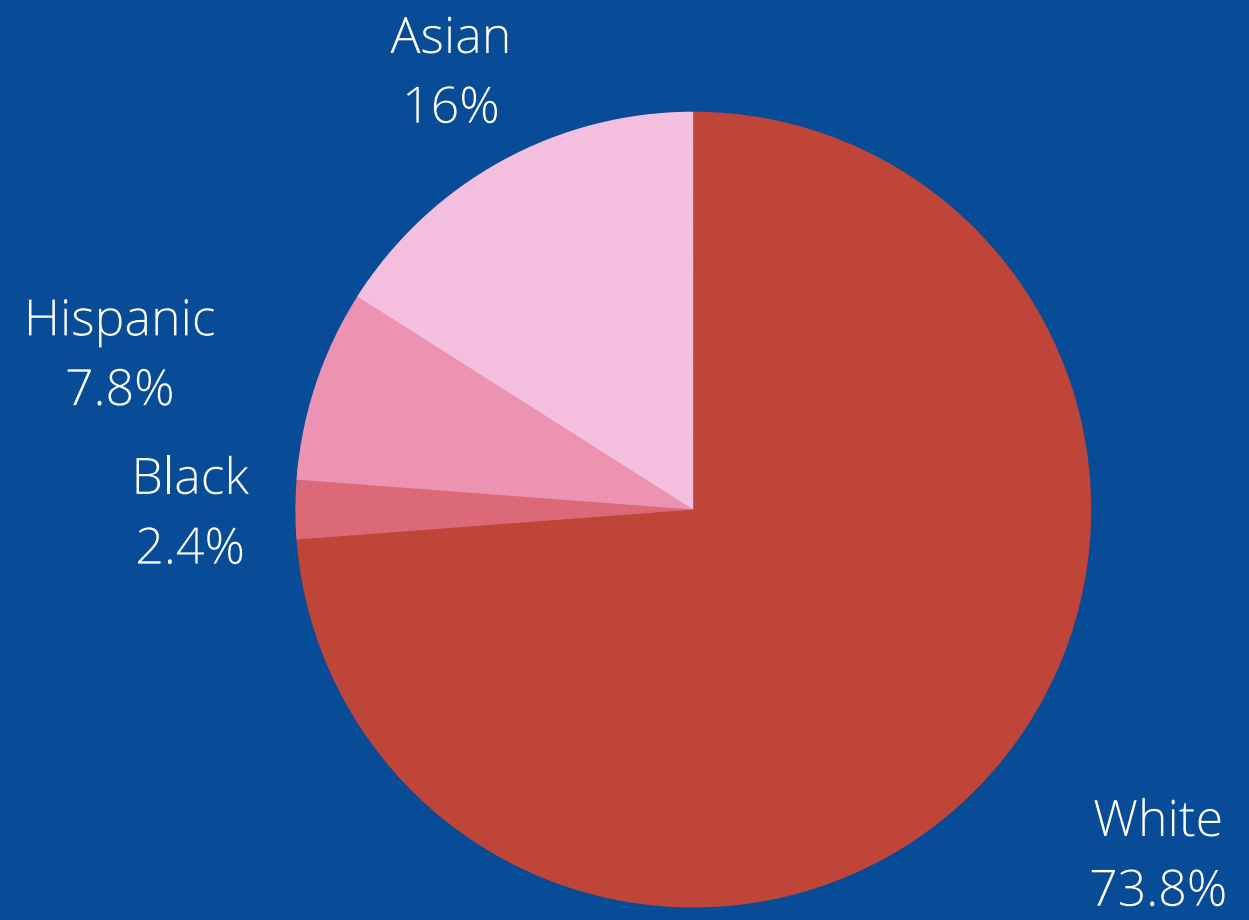
ALL DOCTORAL DEGREES



LIBERAL ARTS &  
SCIENCES, HUMANITIES

Insufficient  
data  
reported

STEM FIELDS



49.4% of doctorate degrees  
conferred

Source: NEBHE analysis of data from IPEDS for Title-IV participating, degree-granting doctoral universities with "very high" or "high" research activity, as established by the Carnegie Classification rubric. Doctoral degrees counted include Ph.D., Ed.D., D.M.A., D.B.A., D.Sc., D.A., or D.M, as designated by the awarding institution

# Summary

Need greater focus on diversity and equity in early stages of the faculty development pipeline.

Need greater transparency on doctoral program applications and admissions.

Underrepresented minorities tend to pursue degrees in the liberal arts, rather than STEM.



Nearly half of all new doctorates in New England are scholars in the STEM fields.

White scholars represent the vast majority of STEM doctorates in New England — 73.8%.

Hispanic scholars represent only 7.8% of STEM doctorates. Black scholars account for only 2.4%.