

Safe Space Warm Embrace: Building Blocks to Support Black & Brown STEM Scholars

Dr. DeAnna Katey, Virginia Polytechnic Institute and State University

Bio for Outside Virginia Tech Dr. DeAnna Katey current serves as the Director of Undergraduate Student Programs for the Center for the Enhancement of Engineering Diversity (CEED) within the College of Engineering at Virginia Tech. In her role, she is charged with increasing the diversity of the undergraduate student population and creating spaces for student's academic, professional, and personal development. This includes a wide range of programs including Galileo and Hypatia Living-Learning Communities and the CEED Peer Mentoring program. Previously, Dr. Katey served as the Assistant Director of Student Success and First-year Experience at Siena Heights University located in Adrian, Michigan, where she played a pivotal role in creating an environment of success for first-year students. Her professional interests and research focus on the retention of underrepresented and underserved students. Dr. Katey graduated from Clarion University of Pennsylvania (Clarion, PA) where she earned a Bachelor of Science in Education (2007) and a Master of Education in Curriculum and Instruction (2010). In 2019, she graduated from Morgan State University's Higher Education Administration doctoral program (Baltimore, MD).


Terrance I Harris, Drexel University

Terrance Harris serves as the inaugural Director of Diversity, Equity, & Inclusion for the College of Engineering at Drexel University. Terrance received his bachelor's degree in business from Western Kentucky University and his master's degree in Higher Education from the University of North Texas. As director, Harris is responsible for the college's DEI initiatives supporting and promoting programs, policies, events, and other activities to foster conversations and create a sustainable framework to advance DEI across Drexel Engineering. His role includes chairing the college's committee on DEI, working collaboratively with Drexel's Office of Equality and Diversity to ensure the planning and implementation of relevant DEI training and educational opportunities for college faculty and staff, as well as with HR and the college leadership on initiatives to improve the recruitment and retention of diverse faculty and staff. Harris also coordinates with affinity student organizations and programs across the college including, NSBE, SHPE, and SWE to name a few, acting as secondary advisor as well as primary college contact for external affinity-based organizations.

Prior to joining Drexel Engineering, Harris served six years as the Director of the Lonnie B. Harris Black Cultural Center at Oregon State University. As Director of the BCC, Harris worked collectively with campus partners, alumni, and various corporate entities to provide support and opportunities for students (specifically Black identified students), faculty, staff, and alumni. Harris advised multiple organizations such as the Black Student Union (BSU), Black Graduate Student Association (BGSA), African Student Association (ASA), National Society of Black Engineers (NSBE), and the National Panhellenic Council (NPHC) while also building bridges between alumni and community outreach. He served as Co-Chair for the President's Commission on the Status of Black Faculty & Staff Affairs actively advocated for Black faculty and staff support at Oregon State University.

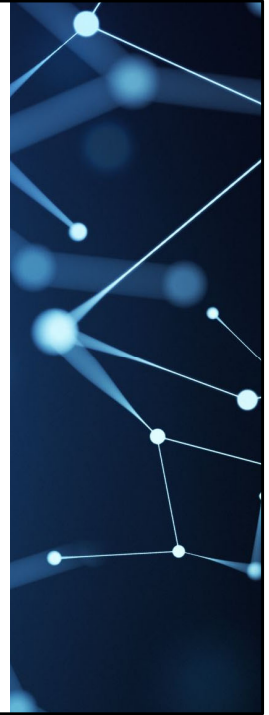
As director, Harris vision is to be an advocate, innovator and equitable leader of inclusive excellence who is committed to supporting the consistent development of our diverse student, faculty and staff populations in engineering.

Terrance is actively involved with the National Conference on Race & Ethnicity (NCORE), a member of the National Association of Student Personnel Administrators (NASPA), and a proud member of Kappa Alpha Psi Fraternity, Inc. Harris is a true southerner originally from Louisville, KY Terrance has lived all over the south in cities such as Dallas, Atlanta, and Orlando. Terrance believes that his everyday mission is to be the vessel to foster student development while always being your authentic self.



Safe Space Warm Embrace: Building Blocks to Support Black & Brown STEM Scholars

Presenters: Dr. DeAnna Katey,
Virginia Tech & Terrance Harris,
Drexel University



These presentation will be presenting two types of programs that are designed to assist with creating a safe space for Black and Brown STEM students at two PWIs: Drexel University and Virginia Tech. Drexel is in the University City section of Philadelphia, while Virginia Tech is in the town of Blacksburg.

About Presenters

Dr. DeAnna Katey

- Director of Undergraduate Student Programs at VT since 2020

Mr. Terrance Harris

- Director of Diversity, Equity, & Inclusion at Drexel University since 2022

Each presenter will introduce themselves and discuss their journey to their current positions.

Background Info


- Budny, Paul, and Newborg (2010) – mentoring enhances experience for first-year engineering students
- Mentoring for all engineering students - Gattis, Hill, & Lachowsky, 2007; Budny, Paul, & Newborg, 2010; McCavit & Zellner, 2016; Lim, Macleod, Tkacik, & Dika, 2017; Sandvall, Calder, Harper, Jackson, & Baker, 2017; Kaul, 2019; Tahmina, 2019
- Mentoring for minoritized engineering students - Mitchell & Daniel 2007; Mondisa & McComb, 2015 & 2018; Tuladhar, Queener, Mondisa, & Okwudire, 2021

According to Budny, Paul, and Newborg 2010 “immediate and ongoing mentoring during the first semester of the freshmen year can address transitional issues and create a positive addition to the freshmen experience
Quite a few scholars have conducted research on peer mentoring programs for all engineering students. Very little research discusses the impacts of mentoring on minoritized students, AKA underrepresented minorities.



Programs and New Federal Ruling

The presenters are mindful of the federal affirmative action ruling; however, the ruling does not directly impact anything outside of admission processes. Drexel's program is currently open to any student, with preference given to URM students. VT's mentoring program is self-selected. Students can choose which mentoring group they would like to be a part of.



Why these programs?

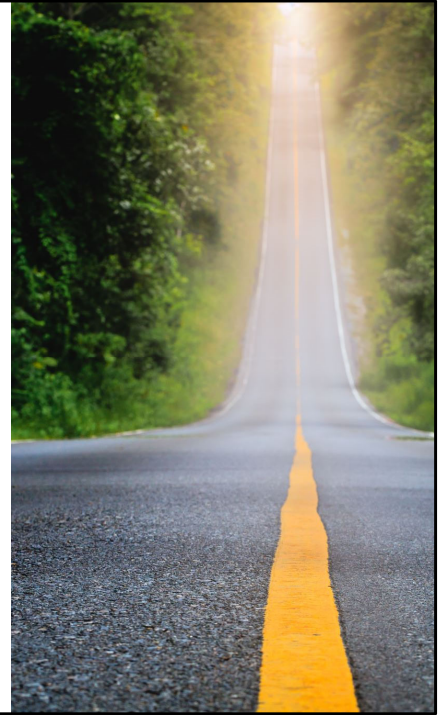
We choose these two programs out of convenience; we currently work with them. Next, we will discuss two programs that we believe assist URM thrive at their PWIs.

The graphic features a dark blue background with a lighter blue circular shape on the right side. The text "DELTA Summer Bridge at Drexel University" is centered in white. The background is divided into a dark blue left section and a black right section.

DELTA Summer Bridge at
Drexel University

Drexel
Engineering
Leadership
Training
Academy (DELTA)
Summer Bridge

- First cohort 2011
- Two-week residential
- Participants paired with peer mentor
- Targets minoritized students
- Campus and community activities
- Staffing



Drexel Engineering Leadership Training Academy (DELTA) Summer Bridge is a two-week residential program that targets minoritized students specifically Black, brown, women, and other students of color majoring in STEM. Through this program model, scholars enhance their math and science skills, engineering design, gain knowledge of campus resources, mentorship of DELTA Alum, and develop a sense of belonging through campus and community activities within the city of Philadelphia. Although this is summer bridge program, mentorship opportunities develop beyond the summer program between previous program participants and the new co-

hort of students. Mentors meet with their assigned mentees at least twice a quarter.

Major DELTA Activities

Engineering Toolkit

- Python and refresher math/science courses

Solar Car Competition

- Design and compete

Resource Tour

- Meet with campus partners

Social Engagement

- Peer mentors are previous DELTA alumn

Engineering toolkit - Scholars gain knowledge of Python and refresher of math/science courses

Solar Car Competition - Scholars design solar cars and compete at conclusion of program

Resource Tour - Scholars meet with campus partners such as ACE & CLASS tutors, academic advisors, BIPOC Mental Health Specialist, Center for Black Culture Staff, LSAMP Program, Center for Inclusive Education & Scholarship

Social Engagement - Scholars are paired with DELTA Alums as peer mentors; all engage in social activities such as Philly tour, tie-dye in the park, bowling/karaoke nights, field day, game night

Peer Mentoring at Virginia Tech



Peer Mentoring

Established 1992

10-week non-residential program

Mentoring groups available

Weekly meetings

Staffing

The CEED Peer Mentoring program is a 10-week non-residential program for all VT COE, however, they offer mentoring groups targeted at Black (Black Engineering Support Team, BEST) and Hispanic (Academic Hispanic OutReach Alliance, AHORA) students, and women in engineering. Through the duration of the program, students informally meet weekly with their small groups, no more than 10 students, both on and off campus. Students also participate in three large community events.



Peer Mentoring offers 3 major programs for first-year students: O-Show, Expo Prep, Major Scoop.

The Opportunities or O-Show allows for first-year mentees to get to know the different engineering organizations including, NSBE, available for them to join. Takes place Saturday before the first day of classes. Students attend with their mentor groups.

Every fall the Student Engineering Council (SEC) hosts the annual SEC Engineering Career Expo. As a way to help prep our students, we partner with one corporate sponsor (previous years Altria, fall 2023 Alpine). Where students learn the proper attire for the event, receive resume assistance, and work on their elevator pitch. Takes place the week before SEC Career Expo.

Major Scoop – is an annual event that allows students to come to one place and learn about the different engineering majors offered at VT and eat ice cream. Typically takes place right before course planning for spring.

End of mentor celebration – takes place at the end of mentoring program (last week in October).

VT Peer Mentoring Student Retention Rates

2021 to 2022

619 total participants 517 returned (83.5%)

121 URM and 98 returned (81%)

169 URM non-participants 123 returned (72.7%)

2022 to 2023

577 total participants 460 returned (79.7%)

139 URM and 124 returned (89.2%)

283 URM non-participants 200 returned (70.7%)

As we know, student retention is important to the success of first-year students, especially URM students.

Within the past two years the overall retention rate for URM students has increased from 81% to 89.2%.

For DELTAs program student numbers decreased during COVID, however, the program has seen an increase in the total number of URM participants since 2018 (3 URM students)

Both speakers (VT and Drexel) will be arranging focus groups in the winter quarter to gauge student feedback from their involvement in the programs. Speakers will also provide a in-depth overview of the program during the presentation

Drexel DELTA Bridge Retention

	DELTA			OTHER		
	AA DELTA	retention	GPA	AA Non-DEL	retention	GPA
2018	3	100%	2.73	20	80%	2.86
2019	6	67%	3.21	28	86%	2.93
2020	2	100%	3.18	14	79%	3.35
2021	3	33%	2.82	44	68%	2.89
2022	10	70%	2.75	24	79%	2.73
overall	24	71%	2.91	130	77%	2.92

Prior to 2022, DELTA was not considered a BRIDGE program but one that provided underrepresented students an opportunity to learn python and do group activities. The program previously had shifts in leadership/ownership, which did not provide authentic support to the overall student experience. Since Director Harris onboarding in May 2022, he has redefined the DELTA as a BRIDGE program with an emphasis on supporting students throughout their first year (not just two weeks in the summer). The above sample size focuses specifically on the Black/African-American population within the College of Engineering, numbers reflecting first year students entering the college (on the left are those that participated in DELTA Bridge, on the right are those that did not).



Keys to Success

- Representation in mentors
- Creating a sense of community and belonging
- Academic preparedness
- Corporate Partner events
- Targeted marketing

We create a sense of belong and community by getting the students involved on campus – Drexel has the ACE tutoring labs/VT has Student success center, making sure students have spaces they can use where they feel safe and as if they belong. Both campuses have student centers specifically for black students (Black Cultural Center VT and Center for Black Culture Drexel).

Having mentors who they can relate, that the students feel comfortable around. VT Peer mentoring programs gives the students the option to have a URM mentor. When gathering student feedback, most URM students indicated that they felt more comfortable in the mentor groups when they were able to have a mentor who was also a URM.

Being in a group of URM students made them feel as if they belonged. They knew they had other people they could go to in times of trouble or when they needed help and were not afraid of asking for help.


Students were more likely to stay connected to their mentor and mentor group after the end of the program.

Getting students involved in mandatory academic events. Drexel requires tutoring for all first-year student participants at point three, six, and ten (weeks).



Each program has specific events for students to network with corporate partners – VT Expo Prep w/Altria, Drexel co-op program – Steinbright Career Development


Center


Overall VT Peer Mentoring has seen an increase in the number of URM students due to targeted marketing. Once registration opens, all URM students receive an email from the Executive Director of CEED inviting them to join the program.





Student Testimonials





 "I enjoyed meeting new people, making new friends and connections, and getting to know campus because these will all help me in the future and with my adjustment to college."

 "I liked building the solar car. I like doing hand-on type assignments because they help me learn."

 "All the activities that we did each day. It was good bonding and a great way to get to know each other. It was great to meet these people and become friends."

 "Making new friends and being able to build a new community. It's nice to know a group of people going in so I have a strong support group to lean on later down the road."

 "The social aspect- I've got a head start on making friends and knowing where things are and have also made some great mentor connections!"

DELTA Summer Bridge Scholars consistently acknowledge their appreciation for this program through testimonials. Since Director Harris has been hired, he has been able to reach back to cohorts of 2019 to present in connecting them in activities and support to help with retention and belonging efforts. There was no individual prior to his arrival that was consistent in building relationships and actively engaging with undergraduate and graduate students (specifically of marginalized identities). The programs that Director Harris has implemented are a direct correlation to involvement of all students, and increase involvement, support, and retention of marginalized students. The data will show the reflection of that impact at the end of the 2023-24 school year.

