

# BEYOND THE GAP



**AN ANALYSIS + FRAMEWORK FOR ACTION  
TO ADDRESS THE RACIAL GAP  
IN PK-12 STEM EDUCATION**

KC

**S T E M**

Alliance

PRODUCED BY THE KC STEM ALLIANCE

# A NOTE FROM THE KC STEM ALLIANCE



We don't mean to be alarmist, but **the lack of a well-prepared STEM workforce is poised to be our nation's next humanitarian crisis.** As a country **we will continue to face situations**—from extreme weather to global pandemics and beyond—**that require science, technology and engineering solutions from a diverse workforce** that represents us all.

Our country's **demographics are shifting.** Those considered the "minority" are moving away from minority status. Yet they are still not presented with the same opportunities as their "non-minority" counterparts and remain underrepresented in the national STEM workforce.

Although **the KC STEM Alliance has always strived to work through a lens of diversity, equity and inclusion,** we realized it was just not enough. As tragic events turned renewed attention to racial disparities and inequities across our country, **we knew we had to do more.**

We talked with the youth we serve. And **we chose to bring more voices to the table** through this series of conversations called "**Closing the Racial Gap in STEM Education.**"

As community, business and education leaders, it is incumbent upon us to develop innovative strategies and to advance policies that ensure all students are prepared for the future STEM workforce, particularly marginalized students who have historically not received these opportunities.

The "**Closing the Gap**" series **engaged educators, students and community leaders in conversations** to understand why this racial gap exists; what's working, and what isn't; and to develop a solutions-oriented approach to addressing this gap.

These conversations included some **hard truths** that **helped us better define our own role** in addressing the racial gap and allowed us to build a framework that other organizations can emulate.

One of the hard truths is knowing that **students of color do not always feel like they belong** at some of the STEM learning opportunities we facilitate. This forces us to ask ourselves to define our role and to consider all of the ways we may contribute to closing this gap.

We've already started working to **create an atmosphere of belonging** at our events by **following youth interests** and **allowing young learners to take the lead** as experts. We encourage the students we work with to **fail forward** and we **build community through mentorship.** We're focused on putting **professionals that look like our young learners** in front of them so they can see themselves in those roles. We know that this is just the beginning.

**These can no longer be conversations we have one week and forget about the next.** Without a fully trained STEM workforce that reflects us all, our country will not be prepared to meet the challenges and solve the problems our world will undoubtedly face.

**This is no longer a choice, this work must be done.** We hope this report will be a tool you can use as an individual or as an organization to better understand the issues behind the gap—and to create a plan of action for change.

*Christina Chandler*  
*Diversity, Equity, Inclusion*  
*and Solutions Specialist,*  
*KC STEM Alliance*

## A NOTE FROM THE MODERATOR

It was indeed my pleasure to moderate the "Closing the Racial Gap" series and I am thankful to the KC STEM Alliance for inviting me to the party.

I learned so much from the variety of panelists who participated—students, educators, STEM professionals and nonprofit leaders. **Each provided a perspective that is both unique and universal, which is how you know you are hearing the truth.**

These perspectives are important because of the outside role STEM fields play in our collective future. This excerpt from "Rising Above the Gathering Storm, Revisited" puts it into perspective:

**"When scientists discovered how to decipher the human genome it opened entire new opportunities in many fields** including medicine. Similarly, when scientists and engineers discovered how to increase the capacity of integrated circuits by a factor of one million as they have in the past forty years, it enabled entrepreneurs to replace tape recorders with iPods, maps with GPS, pay phones with cell phones, two-dimensional X-rays with three-dimensional CT scans, paperbacks with electronic books, slide rules with computers, and much, much more.

[Yet,] **it is not simply the scientist, engineer and entrepreneur who benefit** from progress in the laboratory or design center; **it is also the factory worker** who builds items such as those cited above, **the advertiser who promotes them, the truck driver who delivers them, the salesperson who sells them, and the maintenance person who repairs them—not to mention the benefits realized by the user."**<sup>1</sup>

**STEM is more than just an acronym.** The products and ideas birthed from these fields affect each and every one of us, **which is why it is imperative that diverse perspectives are built into their design.** This series **was** not simply a conversation, but rather **an invitation into a movement that will benefit our entire community.**

As Haile Selassie said: "We must become bigger than we have been: more courageous, greater in spirit, larger in outlook. We must become members of a new race, overcoming petty prejudice, owing our ultimate allegiance not to nations but to our fellow men within the human community."



## MEET ANDREA ELLIS

As the Director of Strategic Collaboration and Civic Impact at Kansas City Action Fund, Andrea is on a mission to engage all Kansas Citians in helping to write a new story of improved educational outcomes for public school students.

Previously, she spent 10 years working at the Kansas City Public Library, developing new opportunities for youth. This included the creation of the Kansas City Digital Media Lab, which merges project-based, interest-driven learning with supportive adults to help youth advance both personally and professionally.

Andrea is a native Kansas Citian, and a graduate of Lincoln Academy, Rockhurst University and New York University.

**Join us in this movement.** Use the learnings from this series, in partnership with the included Framework for Action, to engage, elevate and expand your impact in this fight.

We'll meet in the trenches ...

*Andrea Ellis*

*Director, Strategic Collaboration  
& Civic Impact  
Kansas City Action Fund*

<sup>1</sup> Rising Above the Gathering Storm, Revisited: Rapidly Approaching Category 5  
[https://www.nsf.gov/attachments/117803/public/3b—RAGS\\_Revisited.pdf](https://www.nsf.gov/attachments/117803/public/3b—RAGS_Revisited.pdf) P.3

# BEYOND THE GAP

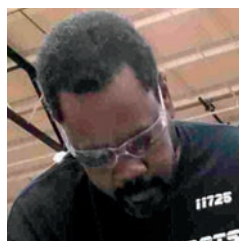
## PANELISTS AND SPEAKERS



Sequoia Beauchamp  
Fifth Grade Teacher,  
Center School District  
*Closing Session Panelist*



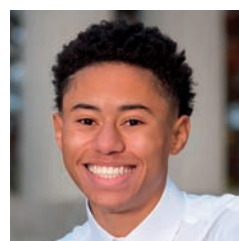
Danielle Binion  
Director for Diversity, Equity &  
Inclusion, KU Medical Center  
*High School Keynote*



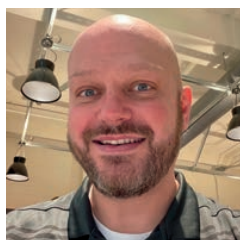
Marcus Brown, Lead Educator,  
Kansas City Digital Media Lab,  
Kansas City Public Library  
*High School Panelist*



Tammy Buckner  
CEO & Co-founder,  
We Code KC  
*Elementary School Panelist*



Brandon Chandler  
*FIRST* Robotics Captain,  
Center High School Graduate  
*Elementary School Panelist*



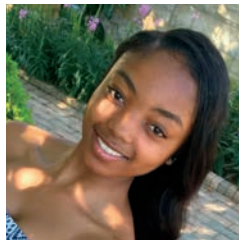
Erasmo Concepcion  
Computer Science Teacher,  
Kansas City Kansas  
Public Schools  
*Opening Session Panelist*



Samara Crawford Herrera  
Executive Director,  
Kansas City Action Fund  
*Closing Session Keynote*



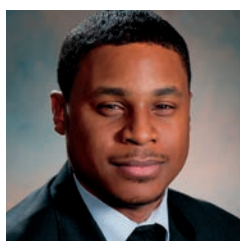
Crystal Faris, Director of Youth  
& Family Engagement,  
Kansas City Public Library  
*Middle School Keynote*



Philania Johnson  
Paseo High School Graduate,  
UMKC student,  
*Middle School Panelist*



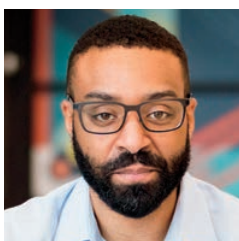
Dr. Phil Jones,  
Educator and Administrator,  
Kansas City Public Schools  
*Middle School Panelist*



Grant Lewis, Senior Engineer  
Tech Specialist, Honeywell,  
*Opening Session Panelist*



Natalie Lewis  
Chief Operating Officer,  
KC Scholars  
*Opening Session Keynote*



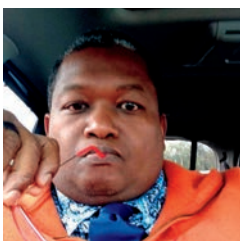
Sylvester Mobley  
Founder + CEO, Coded by Kids  
*Closing Session Panelist*



Britany Mojica  
Staff Facilitator, MINDDRIVE  
*Middle School Panelist*



Edgar Palacios, Founder,  
Latinx Education Collaborative  
*Closing Session Panelist*



Derrick Prewitt, STEM Teacher  
& *FIRST* Robotics Coach,  
Center School District  
*Elementary School Keynote*



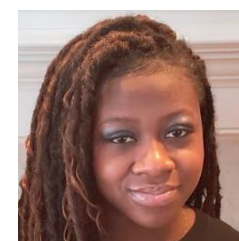
Oz Qureshi  
Program Director, MINDDRIVE  
*High School Panelist*



Canise Salinas-Willich  
Public School Educator and  
DE&I Specialist,  
*Elementary School Panelist*



Dr. Andrew Williams  
Professor of Engineering,  
Author, DE&I Leader  
*Opening Session Panelist*



Nakiya Woodley  
*FIRST* Robotics Team Member,  
Park Hill South High Graduate  
*High School Panelist*



## INTRODUCTION

Science, Technology, Engineering and Math (**STEM**) is **ubiquitous**. Some combination of **each of those fields is a part of almost everything created**, and the variety of talent and expertise needed is vast. In the past year alone, Federal strategic plans have called out the importance of STEM education in achieving goals in areas including **national security, artificial intelligence, cybersecurity, quantum information science and advanced manufacturing**.<sup>1</sup>

Yet, Pew Institute research shows that **although Black and Latinx workers make up 28 percent of the overall national workforce, they represent only 17 percent of the STEM workforce**.<sup>2</sup> That's an 11 point gap. It is clear we are missing an opportunity to include more voices in these high impact fields, as well as the unique perspectives these voices can lend in solving some of our nation's most pressing issues.

**In Kansas City, 17 of the 30 fastest-growing occupations require strong STEM proficiency**.<sup>3</sup> Forecasters expect these high-growth, **STEM-focused occupations to generate approximately 88,000 new jobs in the next 10 years**. Research shows demand for talent will remain strong, as occupations that involve STEM grow at a faster pace than employment in other occupations.<sup>4</sup>

If our region can staff the projected 88,000 new STEM jobs with a mix of talent that reflects its demographics, more than 35,200 young professionals of color would become part of our regional talent pipeline, launching STEM-focused careers in the highest-growth fields.

**STEM workers command higher wages** than their non-STEM counterparts, and **STEM degree holders enjoy higher earnings**, regardless of whether they work in STEM or non-STEM occupations.

With intention and collaboration, **we can work toward ensuring that all young people** entering the talent pipeline have the opportunity to **explore and prepare for STEM careers**. **This is an actionable goal** that every organization, school district, and community member in Kansas City can contribute to while creating benefits that positively ripple throughout our region.

Use this document to reflect on the learnings shared by the 20 panelists who participated in this series to:

- **better understand the very real barriers** that perpetuate inequity in STEM;
- **gain insight** into practical ways in which those barriers have been navigated; and
- **create your own framework for action** that moves us closer to a more equitable representation of racial diversity in STEM.

1. [Charting a Course for Success, America's Strategy for STEM Education P3](#)

2. <https://www.nsf.gov/statistics/2018/nsb20181/assets/1407/digest.pdf>

3. <https://nces.ed.gov/ccd/files.asp>

4. [Charting a Course for Success, America's Strategy for STEM Education, P2](#)

# NAMING & ACKNOWLEDGING THE BARRIERS

Closing the racial gap in STEM asks that we embrace the principles illuminated by the “**Stockdale Paradox**,” which suggests you must maintain unwavering faith that you can and will prevail in the end, regardless of the difficulties; and at the same time, you must have the discipline to confront the most brutal facts of your current reality, whatever they might be.

In this conversation, **that brutal reality means acknowledging that the racial gap in STEM comes not from a deficit in our youth of color, but rather from a system that was never designed to include them.**

“It’s always interesting to me that **we try to produce positive outcomes with systems that weren’t designed to produce positive outcomes. And then we get frustrated** when we don’t get positive outcomes,” says Sylvester Mobley, founder and CEO of a Philadelphia youth tech nonprofit called Coded by Kids. “We have to first recognize this; then we can start working to talk about what do truly equitable systems look like.”

Panelists summarized major barriers in STEM education in their experience as follows:

## LACK OF FINANCIAL SUPPORT, ESPECIALLY COMPARED WITH ATHLETICS

Knowing that the fortunes of many could be changed by their participation in STEM careers, and knowing that the odds are greater that a student can become a STEM professional than a professional athlete, funding for STEM programs should rival that of sports.

## LACK OF RACIAL DIVERSITY IN THE LOCAL STEM WORKFORCE

Even with the best academic preparation, talented Black and Latinx professionals often struggle in a culture that does not make space for them. This creates a huge challenge in hiring and retaining talented professionals of color and in their availability to mentor and encourage students of color.

## LACK OF ACCESS TO TECHNOLOGY AT HOME

Not every student has access to the technology and connectivity needed to participate in both schoolwork and in many STEM extracurriculars, nor the in-home support for troubleshooting technology issues. Assessing each student’s needs and filling those gaps is an important component of a successful STEM education program.

## LACK OF EXPECTATIONS

Schools attended primarily by Black and Latinx students often don’t make the cut for STEM resources, panelists said, and unconscious biases among teachers, counselors and even students themselves can result in missed opportunities for rigorous STEM courses or extracurriculars.

## LACK OF ENVIRONMENTS WHERE STUDENTS CAN FAIL FORWARD, SAFELY

Learning to fail and finding solutions via trial and error is inherent in STEM careers and in successful STEM education programs. But the educational system, as currently designed, does not encourage and cultivate this skill in every student.

# NAMING & ACKNOWLEDGING THE BARRIERS

## LACK OF TRAINING IN HOW & WHY TO TEACH STEM

It is unrealistic to ask educators to teach a subject with enthusiasm if they have no interest or expertise in it personally. Appropriate professional development can be motivating both for teachers and in turn for the youth they serve.

## LACK OF INFORMATION ABOUT THE BENEFITS OF STEM

Students and their families may not prioritize STEM education because they are not aware of the ways it can benefit their families—including, for example, economic stability and freedom, the opportunity to make a large-scale impact on peoples' day-to-day lives and the ability to contribute to solving national and global problems.

## LACK OF FAMILIARITY WITH STEM PATHWAYS & OPPORTUNITIES AMONG PARENTS

It is unreasonable for us to expect all parents to understand the complexities and variety of available STEM pathways and opportunities. Creative parent engagement can be part of the solution.

## LACK OF FLEXIBILITY IN OUR EDUCATION SYSTEM

The skills required for the workforce of today and tomorrow differ vastly from those in the past, yet our school systems lack the ability to keep up with the rapid pace of change.

“

The poet Cheryl Sandberg simply says this: 'We cannot change what we are not aware of. And once we are aware, we cannot help but change.'

”

—Derrick Prewitt  
Teacher and robotics coach,  
Center School District



# MOVING BEYOND THE GAP



Moving beyond the gap in STEM education requires us to look both at the system, and at our own individual spheres of influence.

As a culture, we have created a system that says particular inputs—white or Asian, male, higher income—go into STEM careers, and as a result, that is what comes out the other side. But **just as “we” collectively have created and/or maintained this system, “we” collectively can transform it.**

**That transformation begins when each of us considers where we play a gatekeeping role.** Sometimes gatekeeping is conscious, sometimes it’s unconscious, and sometimes it is simply unchecked bias.

Whichever the case, every barrier discussed by panelists resulted from choices made by people. Educators, parents, counselors, coaches, leaders, and/or business professionals—adult gatekeepers—made choices that reinforced the barriers that negatively affect the STEM experience for Black and Latinx youth.

**We can choose to do better.** We can choose to open that gate or remove it entirely. By developing practices and strategies designed for those most negatively affected, we naturally create strategies that better support all students. An analysis of these discussions offers four places to start.

“

I got to the point where I said if I were to get fired because I was advocating for kids, I’d be OK telling my next boss that.

Because if they don’t want me to advocate for kids, I don’t need to be there.

”

—Sequoia Beauchamp  
Fifth grade teacher,  
Center School District







## Four places to start

- 1 Advocate for resource equity.
- 2 Foster an atmosphere of belonging.
- 3 Cultivate excitement for STEM.
- 4 Think collectively and be real about the tough stuff.



# Advocate for Resource Equity

STEM education can be resource intensive. Moving beyond the racial gap requires advocating for equitable resources—and not just financial. Level-set funding is critical, but so too is the resource of representation at all levels.

## Demand Equitable Funding

The tools for experiential STEM learning become progressively more expensive as students move from preschool to high school. Supporting this type of learning in both formal and informal learning environments **requires intentional commitment and an understanding of the value of the investment by community leaders.**

"Part of the reason that (the racial gap) is widening is because as we shift more to a technology-based experience—drones, things of that nature, the dollar amount to get in has gone up," says Dr. Phillip Jones, an educator and administrator for Kansas City Public Schools.

**Access to this type of equipment and technology is not readily available to many students,** says Oz Qureshi, Program Director for MINDDRIVE, a Kansas City project-based experiential learning program with an emphasis on STEM.

"If you play sports or some of those types of activities, you have access to facilities and equipment where you can practice and train and get better," Qureshi says. "But how do you get better at flying a drone unless you have access to that equipment? And what do you do when you break it?"

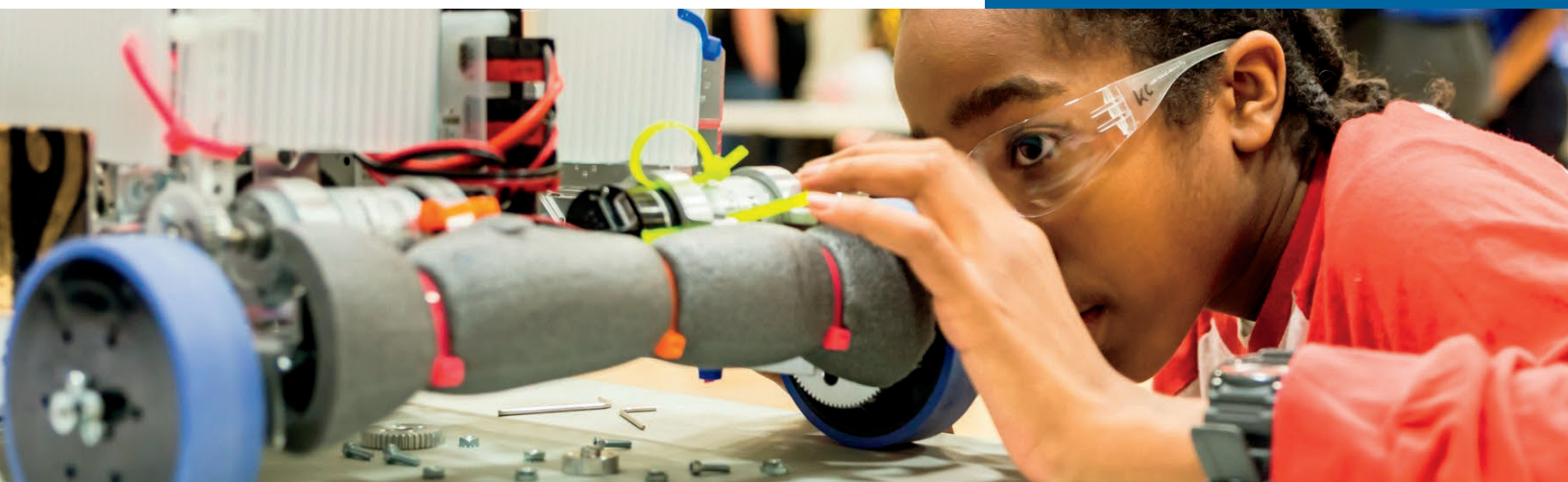


“

How do you get better at coding unless you have access to the right type of equipment where you can continue to work at that craft?

”

—Oz Qureshi,  
Program Director,  
MINDDRIVE





## Be intentional about representation

Creating equitable resources includes being diligent and intentional about **connecting youth to educators who align with their race and culture** and **ensuring that people of color have a full voice in decision making at leadership levels.**

Failing to be inclusive at all levels is a common pitfall, panelists said. As Jones points out: "It's hard to say that I want to serve a (particular) community, but then (not be willing) to open up the leadership to the community that I'm wanting to serve."

Latinx Education Collaborative founder Edgar Palacios says **increasing racial diversity among STEM educators is essential** in a nation where nearly 20 percent of the population is Latinx, yet the demographic represents only 8 percent of the STEM workforce.

"(Only) 8 percent of the STEM workforce is Hispanic Latinx," Palacios says, "which ironically is the same number of teachers nationally. It's that same percentage, 8 percent. Our community is here and we are growing exponentially. **It's so important for our students, for our children, for our community to see ourselves reflected in leadership, in decision-making positions in any field.**"

Center High School graduate Brandon Chandler says representation also helps students of color understand they belong in STEM:

"That's extremely important that they see people like themselves in leadership positions ... and **if someone comes to talk to them about STEM, it (should be) someone like them.** I think that would actually really help these kids connect to STEM-related activities."



## FOSTER AN ATMOSPHERE OF BELONGING

To close the racial gap in STEM requires creating an atmosphere of belonging for Black and Latinx youth. Putting fundamental youth development practices to work is an excellent place to start, panelists said. Those practices, such as active listening and helping youth develop agency in their own learning, can help students see they *do* belong in STEM.



“ It doesn't matter your race, your gender, your background—you can compete with anyone in the world, given the opportunities and the encouragement. People may say you don't belong, either explicitly or implicitly, but we have to realize that we do belong in this field and that we can achieve just as much as anyone else. ”

—Dr. Andrew Williams,  
Dean of Engineering, The Citadel School of Engineering

## Start with youth interests

Starting with youth interests, no matter how irrelevant it seems to your goals, acknowledges students' humanity. And **recognizing their humanity builds the trust** that leads to the relationships so important to this work.

**"You have to talk to students at this age to find out where their head is and... what they're interested in,"** Jones says. "Then start connecting the dots."

He put this philosophy into action when teaching students whose families had just survived Hurricane Katrina: "I had students who were literally helping their parents build homes. At the time I was teaching geometry and we started talking about square footage and how that equals dollars (when calculating needs for sheetrock)."

Natalie Lewis, an education thought leader with extensive experience in the Kansas City region, believes **active listening for each young person's interests and motivation has the power to open minds to potential career pathways in STEM:**

"So that kid that loves cars, (suggest they) go get a mechanical engineering degree and go work for Chrysler and design cars. That kid who is an athlete and loves sports? Go figure out the science in sports," she says.

**"We can do better as an industry in talking about STEM.** There's science in fashion. ... we can develop shoes, we can develop equipment, sports equipment."



## Let youth be the experts

**Adults must support youth in owning their educational journey,** which begins by acknowledging they each have a unique perspective and expertise. Crystal Faris, Director of Youth & Family Engagement for the Kansas City Public Library, says sometimes this means pulling back our own expertise so that a tween, teen or child can be the teacher and we can celebrate their knowledge.

**"Our role is also to actively listen** as educators, as informal educators, as simply people who care about the youth of our community," Faris says.

Giving students agency to find their intrinsic motivation is essential, says Park Hill South High School graduate Nakiya Woodley: "Having students be able to choose their own interests and figuring out what they want to do in life on their own ... would open up a lot more doorways and probably open up a lot more fields of study in both schools and ... out in real life as well."

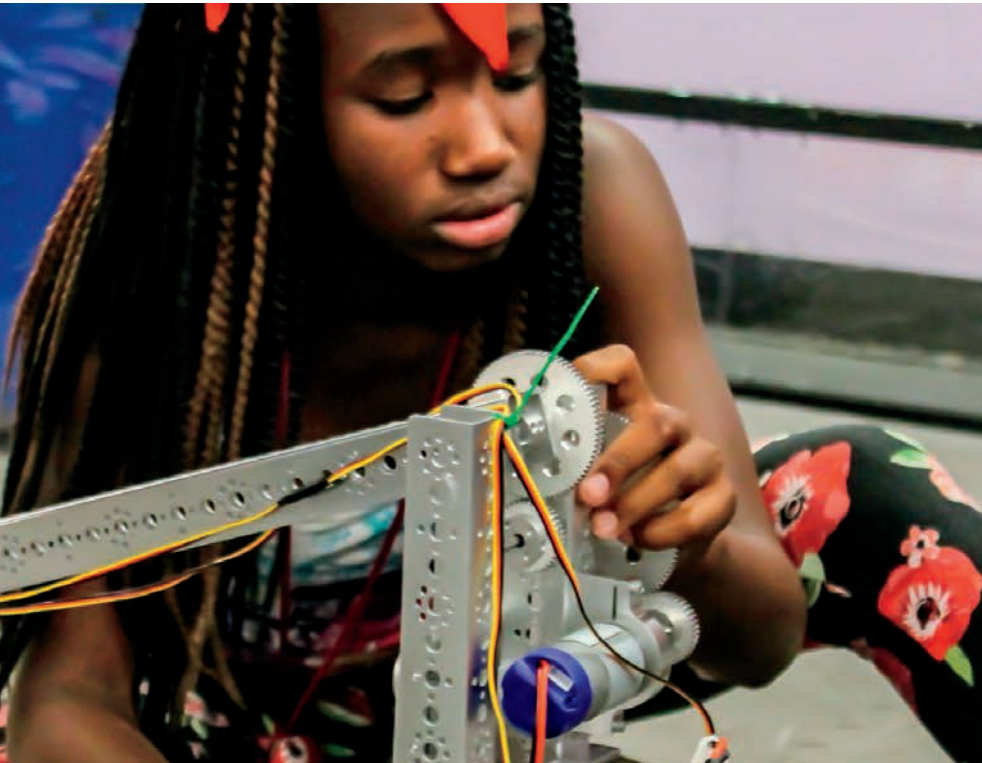
**Allowing this kind of agency and free thinking falls outside the traditional education model,** says Canise Salinas-Willich, a public school educator and diversity, equity and inclusion specialist.

"A lot of our teachers have control issues. And STEM is not a controlling pedagogy. STEM is not a controlling resource," Salinas-Willich says. **"STEM allows kids to freely think and to freely move...."** But that's not what our educational system has taught them (about) how education looks."



# BEYOND THE GAP

FOSTER AN ATMOSPHERE OF BELONGING



“

You learn a lot from failing when it comes to STEM. ... It's not always about the answer. It's about you working as a team.

—Derrick Prewitt,  
STEM teacher and  
robotics coach

”

## Encourage failing forward

The industries that employ STEM professionals know that **failure is simply a stepping stone to success.**

We often herald the journey of the hero who has gone through many tribulations before accomplishing their goal, and recognize the value in their experiences.

**Yet in our learning environments we create a culture of reward for being right rather than for failing forward.**

Series moderator and Kansas City Action Fund's Andrea Ellis says **it's important for youth to see the adults in their lives model this philosophy.** “Let them see you fail; let the adults be imperfect; let them see that adults don't know everything and that we're learning sometimes right alongside them,” Ellis says.

“And when we are trying to figure it out and we can't quite—and all of a sudden they have more information than we have? **There is a leveling of the power dynamic** that is really important and that

**allows you to start to build authentic relationships,”** she adds.

Britany Mojica, staff facilitator for MINDDRIVE, says **learning to fail forward helps students learn how to self advocate.**

“When students are permitted to fail in something and maybe not be so good at it—that is definitely one of the tools where students learn a better sense of who they can go to for help, what kind of help they need and (how to) advocate for themselves,” she says. “(They) learn who to trust and how to be willing to take more opportunities. And I think a lot more people should be open to having students do that.”

**Learning how to “fail forward” requires a cultural shift in the classroom,** adds Derrick Prewitt, a STEM teacher and robotics coach at Center Middle School.

“Sometimes as teachers we're always looking for the kids to give us the right answer. And then if it's not what we want them to have, then we kind of (dismiss) them,” Prewitt says.

## Build community through mentorship

Trusted adults who can support youth in both formal and informal capacities contribute to an atmosphere of belonging by intentionally acknowledging the value of their perspective and effort.

Research from the Search Institute shows that **teenagers or tweens need at least two relationships with adults who are not related to them to become healthy mature adults**, says Kansas City Public Library's Faris.

Grant Lewis, Senior Engineer Tech Specialist at Honeywell, says **that type of mentorship fosters awareness of potential career paths and builds confidence**. Lewis, who has organized and advocated for numerous STEM outreach programs, says he focuses on building confidence with the students he works with:

"(I say) 'Hey, you can do this. I'm going to pour into you. I'm going to be consistent. I'm going to come and show you what you can do. I'm going to bring you (into) my job so you can see what we do.'"

Relationships built in this way help close the gap because the **students who benefit** from them **often become advocates of the program and mentors themselves**, Lewis adds.

Such a relationship with a trusted adult is how Park Hill South graduate Woodley landed on her high school robotics team: "The teacher invited me to one of his enrichment classes where he introduced the idea of robotics to me. And from there, I just fell in love with robotics and everything about it."



“ They just don't see enough of us. Mentorship is so very important and we don't show up enough for our students. So mentor. Find a program that you can get involved with. Help out, even if you just know how to help turn on computers. Be a mentor. Just be there and step up for our children because we need you desperately.

—Tammy Buckner  
Co-founder WeCodeKC



# CULTIVATE EXCITEMENT FOR STEM



Cultivating excitement is increasing an awareness of what STEM means in practical ways that are relevant to students and their parents.

It means helping educational leaders and teachers see the value of STEM to enhance academic and career success.

It means challenging the community to define a new way of educating that integrates STEM more intentionally throughout the school day.



If we were really looking at melding these things together, STEM education wouldn't be an opportunity that I can only take advantage of after school. It would be something that I can fully take advantage of throughout the day, and it would be fully integrated in the curriculum.

—Marcus Brown,  
Kansas City Digital Media Lab







## Engage education leaders, teachers and parents

To cultivate excitement for youth, we first must cultivate excitement among educators. As with students, **teachers should learn new things, play, and learn the value of—and be comfortable with—failing forward.**

“Leadership and people above don’t really understand what STEM or STEAM truly is and how it affects the brain, how it affects students’ ability to explore more and to want more,” Salinas-Willich says.

Because educators weren’t exposed to this style of learning in their own educations, they may be resistant. But Salinas-Willich has discovered that tapping into **what excites her teachers has a cascading effect.**

“I want to know what excites teachers,” she says. “If a teacher tells me, ‘I really love STEM that has to do with cooking,’ then I know where to start. **You have to tap into your teachers and what they do well.** You have to tap into what excites them, and then it’s the trickle-down effect.”

Danielle Binion, who directs DE&I at University of Kansas Medical Center and has deep experience with Kansas City’s education community, says teachers’

unique intersection between students and parents makes them a critical part of the equation.

“Teachers can scale these opportunities for students because teachers know and have the relationships (with both students and parents). So how do we better empower and amplify their voices and give them some of the skills they need to scale STEM in a way that’s powerful in the classroom?”

Most **parents want to see their children be successful, but their view of what’s possible can be limited by their own experiences and social networks.** Therefore, we must cultivate excitement within them as well. Parents understand sports and are willing to support their students in that capacity. In one example, Center Middle School’s Prewitt talks about how he used that energy to support his robotics team:

“I had to start convincing my parents that this robotics was something great. ... Around that fifth year, it just kind of snowballed. Every year they would get more parents involved, (saying to each other) ‘Look, your kids probably need to be in robotics. Your kids need to be in robotics.’”

Over time, that led Prewitt to expand to eight teams.

# BEYOND THE GAP

CULTIVATE EXCITEMENT FOR STEM

## Start early and diversify broadly

It is never too early to start. **Introducing youth to STEM at an early age normalizes it as a pathway** for future opportunities. It also provides students more time to try different aspects of STEM to determine what best fits their skills and interests.

"There are no excuses," teacher Derrick Prewitt says. "(If) it's not too young to be putting a little helmet on out there playing football or putting the flags on, it's not too early for them to be in STEM."

**Early exposure also can help young people develop a positive attitude about STEM learning:** "Particularly with our young Black males, we must catch them before they become too cool for school or too cool to learn," says KC Digital Media Lab's Brown.

With the breadth of opportunities in STEM, **career exploration must continue throughout a student's educational career.** "There are so many other careers in technology," We Code KC's Buckner says. "We try our best to expose them to project management, business analyst, data analyst, so that they can see tech is not just being a software developer."



## Keep it relevant (and fun!)

Making activities relevant means helping students see that **STEM subjects are** not simply abstract concepts but **ideas that can directly connect to their daily lives.**

Kansas City Public Schools' Jones remembers lessons learned alongside his grandparents: "My grandmother would always heat up water before putting sugar in to make these things called frozen cups," he says. "And the reason that you do that is because once you raise the temperature, you can get more sugar to go into a solution. My grandfather would always be working on cars or something of that nature, and he would always have me involved. So **for me, STEM actually started at home.**"

Salinas-Willich suggests **introducing STEM to young people through activities they already love**—using halftime at basketball or football games to show how a robot can shoot a basket or other fun things in the STEM toolbox.

At Center Middle School, Prewitt aims to turn his robotics teams into school celebrities.

"What I try to do is **turn the kids into rock stars,**" he says. "I try to **treat them as if they were athletes.** I buy the T-shirts. I give them backpacks. When they walk through the school I want the other kids to say, 'Hey, I want that T-shirt. I want a backpack like they have.'"

## Highlight economic freedom

Pulling back the curtain to **talk explicitly about the financial benefits of a career in STEM** also can cultivate excitement.

Raz Concepcion, a computer science teacher at Wyandotte High School, uses his own life story to motivate students to consider STEM courses.

"I grew up poor and homeless from KCK," he says. "We just moved around a lot due to poverty. I joined the Marine Corps after high school, where they taught me about computers and software development."

Today **he helps his students link their interests with potential careers by illustrating how much flexibility financial independence can provide.**

"So I have a kid come up to me and say, 'Man, I love working on cars.'" Concepcion says.

"And I say, 'Man, that's outstanding. You're really good at this computer thing, so do this. You could buy a house with three car garages and put whatever three cars you want to work on in those garages.'"

We Code KC's Buckner also **believes in sharing the financial incentives a STEM career provides:** "I'm not ashamed to tell these kids how much money I make. I'm thankful for being in this career path. It's lucrative and I tell them all the time—this is how much money you can make."

Honeywell's Grant Lewis points out that a STEM background also gives people of color the flexibility to hold out for employers who offer truly inclusive workplaces: "Your talent can go anywhere you want to go with that degree."



# THINK COLLECTIVELY —AND BE REAL ABOUT THE TOUGH STUFF

Closing the racial gap in STEM requires making individual choices that make a collective difference. It's building the capacity to empower students of color, their educators and their families to achieve far greater success in the STEM fields than history has ever afforded them.



“

The African proverb teaches us that if you want to go fast, go alone. (Or as I like to say, go by yourself.) But if you want to go far, we must go together.

And we know that our collective work and responsibility demands that we partner together for student success.

”

—Samara Crawford Herrera  
Kansas City Action Fund



## Use your social capital courageously

**Closing the racial gap in STEM requires opening the floor to voices too often marginalized**—voices of Black and Latinx youth, parents and educators who do not feel empowered. It includes being thoughtful about who you invite to the table and to whom you give credibility.

Sequoia Beauchamp, a teacher in the Center School District, says her decision to become a vocal advocate for equitable STEM education came from putting her students at the forefront.

“We have to make the decision that **the things that are being decided for kids are more important than the possibility of what could happen with our job**, and know that we can get jobs elsewhere. I got to the point where I said if I were to get fired because I was advocating for kids, I'd be OK telling my next boss that. Because **if they don't want me to advocate for kids I don't need to be there.**”

Edgar Palacios acknowledges the **discomfort** that **can come with speaking up**: “I have to recognize that I have the privilege of having a voice in these conversations,” he says. “And I have to use it. That could be a hard thing to learn, it could be a hard thing to practice, and it could be a hard thing to try to overcome.”

But **there are plenty of people who walk into your spaces every day who don't feel like they have a voice, who don't feel like they are understood, who don't feel like they belong**. And so if you're feeling uncomfortable I will guarantee you that they're feeling uncomfortable. And that's just something that's part of the collective nature of this work.”

## Think strategically

**Understanding who else is working in a similar space** and finding ways to connect and collaborate **can keep students moving along the STEM pathway**. Kansas City Public Library's Faris suggests we can be more intentional about how we're connecting young people to different opportunities at different stages in their development.

“If we're doing exploratory stuff at the library, (we need to know) who's doing more in depth work (so that when a kid is ready for it, we can say, ‘Hey, this is a program for you,’” she says.

MINDDRIVE's Qureshi says **these types of connections can fill a gap in the community**.

“**It's not enough to just do more, we've got to do a lot more,**” he says. “The students we work with, they want to do what we do. They find their passion. They get excited about it, but **there isn't the same cultural network of support to help them** through all of the different obstacles and barriers.”

“We have to see ourselves as part of a larger system and understand how we work in relation to the other parts of that system. We have to be deliberate about coming up with a strategy for how we work within that system, and how we work to move our partners along.”

—Sylvester Mobley  
Founder and CEO, Coded by Kids



## Hold STEM organizations accountable

**Organizations invested in creating a more diverse, inclusive and racially equitable environment** consistently **question their policies** and procedures, while also **intentionally opening doors for people**. This means reviewing hiring, evaluation and retention practices; looking at success data at a race and gender level to see who is really thriving in the organization; and **it requires fully supporting Black and Latinx people when inviting them in**.

KU Med Center's Binion notes that although **STEM education program providers** put much thought into programs they prepare for students, they **sometimes overlook cultural considerations and obstacles**.

"We haven't accounted for imposter syndrome, and we haven't accounted for unconscious bias that our students will face in these environments. And we haven't really accounted for these gatekeepers, who are adults," she says.

For STEM educators, being accountable means doing due diligence before sending students into an organization for job shadows, internships or projects, Binion adds. It's about "having really great conversations with industry about the DEI work that they're doing before we place students there."

"I think **we need to ensure that students really see themselves when they walk in these programs**, whether it's pictures of people that look like them on the walls or introducing them to people that look like them at every level of the company or institution, I think that matters," Binion says.

And **the work should be something that interests students**. Is there some current activity for a client project that relates to the culture of the students who are engaged in the program? **How do we make it relevant** to their interests and their lived experiences?"

“When we're bringing students into these environments, we also need to prepare the environments, the adults in the environment—whether it's training opportunities or some development around bias.

—Danielle Binion  
Director of DE&I, KU Medical Center



## Prepare students for the reality on the ground

In addition to holding organizations accountable for how they invite Black and Latinx youth into their spaces, **we must prepare those students for a culture that may not be prepared for them.** It is much easier to handle challenging situations when you have received insight and tools to support you in the experience.

MINDDRIVE's Qureshi says many students and families he works with are apprehensive about traveling to rural areas for student competitions.

**"You have to do the work necessary to get the trust of the parent and the family** to make sure that they know that this is going to be OK," Qureshi says. "And unfortunately we've had our share of issues on these trips. And that also makes it difficult because you do the work necessary to get the trust and the consent from mom and dad ... and then you run into an issue where they experienced racism. It just makes it complicated and difficult."

KC Digital Media Lab's Brown says **having a conversation ahead of time can help.**

"When we take a group of young people into a different environment, we must have conversations that we shouldn't always have to have, but we must think about this layer of education when we're involving ourselves in these environments."

**Preparing students** for the reality on the ground also **means helping them navigate unconscious bias, microaggressions and racism.** That includes preparing mentors to advocate for students and addressing any issues that arise immediately.

"We have to really work with students to give them a full sense of their why and to encourage them to follow their passions, but also give them the tools to counteract any of that imposter syndrome," Binion says.



## WHERE DO WE GO FROM HERE?

We are sitting at a precipice. Before us lies an opportunity to be a part of something larger than each of us individually, yet supports us collectively. It is about creating and redefining a system of learning that works for everyone.

It is not advocacy for leaving white students behind in favor of elevating students of color. Let's release that myth. It is about restructuring **a system in which ALL includes Black, Latinx and Indigenous youth.**

**Closing the racial gap in STEM requires** persistence, compassion, strategy and the willingness to see the humanity in each other. It demands **being both realistic and visionary**, and it takes a boatload of courage. When we focus on the fundamental tenets of youth engagement—building trusted relationships, introducing new challenges that stimulate growth, and making connections to opportunities—we're reminded to make every decision from a youth-first perspective. And we're reminded why we do this work, even when it's messy.

"The sink's overflowing, something's broken and it's flooding up the kitchen," Qureshi says. "And what we've done is **we created some really interesting mops and mop buckets, but we haven't really committed ourselves to figuring out how to shut off the faucet.** And that requires getting wet; it requires getting messy."



To close the racial gap in STEM, and more importantly to move beyond it, **we have to be able to hold the big picture in mind while taking the small, individual steps, needed** to ensure success. Our hope is that the Framework for Action provided on the following pages supports your ability to do just that.

*"There's an ingrained societal suspicion that intentionally supporting one group hurts another. That equity is a zero sum game. In fact, when the nation targets support where it is needed most—when we create the circumstances that allow those who have been left behind to participate and contribute fully—everyone wins.*

*The corollary is also true: When we ignore the challenges faced by the most vulnerable among us, those challenges, magnified many times over, become a drag on economic growth, prosperity, and national well-being."*

— Angela Glover Blackwell  
*Stanford Social Innovation Review, Winter 2017*

“ We cannot care about wanting the best for children, the best neighborhoods, the best healthcare, the best careers and jobs, unless we care about wanting the best opportunities for their learning experiences. And that my friends, that's the work today, it's just the work. ”

—Samara Crawford Herrera  
*Kansas City Action Fund*



# A FRAMEWORK FOR ACTION

Moving beyond the racial gap in STEM takes each of us doing our individual work to contribute to the collective work. Use this framework, designed to focus in on goals you can accomplish in 6 to 18 months, to create an action plan specific to your expertise, interests and sphere of influence. See the following pages for examples of action plans for different types of roles.



## 1. Choose your "who."

Who are you in a unique position to reach? This could be parents, youth, funders, educational leaders or civic partners or your neighbors.

**ASK:** Why is it important to engage this group? How am I uniquely qualified to engage this group?



## 2. Define a personal power statement.

This is what you return to when things get challenging and overwhelming.

**ASK:** Why is moving beyond the racial gap important to me personally? Why is it important in the work I am doing? Why is it important for the young people I serve?



## 3. Name your goal(s).

Define a specific next step that you personally want to take to contribute to the collective goal of moving beyond the racial gap in STEM. Use the barriers as a starting point.

**ASK:** How do aspects of those barriers manifest in my work or my personal life experience?



## 4. Get proximate to power.

Identify three people who can help you move toward your specific next step. These may be educational leaders or political players, but they also might be an engaged parent, a charismatic student or a colleague who is well networked.



## 5. Identify your strategy for engaging power.

Think about how you will engage your three people.

**ASK:** How will each of these people or their organizations benefit from supporting my efforts?



## 6. Build your community.

Connect with others committed to moving beyond the racial gap in STEM. Consider those working in similar roles and environments, but also think about people in totally different learning environments. Power and transformation comes from the synergy of each individual doing their part in collaboration with the collective.

**ASK:** Who can I call for emotional support when I just need to complain (or brag)? Who are my professional connections? Who can help me understand the landscape of the work and how to think about it strategically?

# A FRAMEWORK FOR ACTION

## EXAMPLE: STEM program manager



### WHO: Parents and guardians

Parents are a powerful force in the life of their child. Inviting them into the learning at whatever level they are interested in will reap long-term benefits. I am uniquely qualified because I am a parent who has thought deeply about connecting my child to opportunities for their development.



### WHY: I want a better world for my child and those I serve.

I work with many youth of color who feel disconnected from their community and from their potential with no sense of joy about what their future holds. That scares me. I don't want to be a senior citizen in a city that has generations of youth who feel hopeless. And more importantly, I do not want my child raised in that environment.



### MY GOAL: For parents to be excited about this program.

I want to get my program participants' parents excited about the production work in the lab because I believe their encouragement will increase how long youth will participate. My specific goals:

- Parents visit the space regularly and engage with staff.
- Parents are comfortable talking about the work in the lab and specifically about their student's projects.



### MY POWER 3: Identify and connect with three people who have the power to assist

**Jarrold**, my lead facilitator, is good at engaging with parents. When he can get in conversation with them it totally changes how they view and interact with the program.

Isaiah's mom, **Cheryl**, enthusiastically supports his involvement in the lab. She often comes in and talks to staff and is a big cheerleader for the program in the community.

**Sasha** is a regular participant with an outgoing personality and is a leader in the lab. Her mom readily drops her off and picks her up for the program, but doesn't come in. Sasha conveys to staff that her mom is "fine" with her participating.



### MY STRATEGY: Start with parent input

Work with Jarrod to create micro-focus groups with the parents he talks with regularly. Start with Cheryl. We want to learn:

- What does she appreciate about the lab?
- Why does she send her son there regularly?
- What does she want him to get from the experience?
- What does she need from us to love the program even more?

Use this initial feedback to conduct quick focus groups with other parents. Then we can use this information to create specific ways to communicate with parents. For example:

- 1) Parent-only nights where they can just relax, play, and learn more about the lab.
- 2) Parent/student events with the youth as the teachers.
- 3) Design ways to tell parents who can't come to the lab about their child's work there. Send home positive feedback about their child.



### MY COMMUNITY: Name my emotional, social & professional connections

I can reach out to others who run programs for youth in my community. They don't all have to be STEM focused.

I also have my group of girlfriends who will let me complain, cry or scream if I need to.

Another group could be the parents of my son's friends. We have cordial relationships and they could help me think through ways they as parents would be interested in this work.

## EXAMPLE: STEM program facilitator



### WHO: Youth ages 9-19

I am going to focus on youth ages 9-19 because that is the current demographic being served through my program. I am uniquely qualified because I work with this age group on a daily basis.



### MY POWER 3: Identify and connect with three people or organizations with the power to assist

The **KC STEM Alliance** delivers FTC programs. They can help think through innovative ways to use the FTC components for off-season learning and connect us to other teams that could support that effort.

My **Development Director** has access to funders who could sponsor equipment we could use for engineering and coding activities in the lab.

**An established FTC team** willing to work off season could be a powerful partner in sharing their learning.



### WHY: STEM confidence leads to opportunities.

Getting the youth I serve comfortable with STEM as a concept is paramount to their potential future success. STEM careers will be some of the most lucrative opportunities. Therefore, creating an environment now that is safe and non-threatening that allows them to play, explore, and learn is my mission.



### MY STRATEGY: Seek connections + funding

Draft a document that outlines the intention of introducing youth to FTC components outside of the regular season.

Get familiar with the FTC teams in the region. Attend competitions to meet teams and coaches and to get a feel for who might be a good fit.

Send the document to the KC STEM Alliance requesting assistance. Specifically asking for connections to established teams that might be willing to work with youth during the off season, and for guidance on creative ways to work with the FTC components.

Work with my organization's leadership to identify potential sponsors or funding.



### MY GOAL: To use robotics as a springboard.

I want to use the components from *FIRST* Tech Challenge outside of the competition season to get youth excited about robotics. Specifically:

- Youth who can't participate during the regular FIRST season are introduced to the concepts of engineering and coding through robotics.
- Youth can connect the concepts from this robotics program to other STEM-related activities.



### MY COMMUNITY: Name my emotional, social & professional connections

I have access to a network of professional, intelligent Black men through my fraternity. Some of them work in STEM and I can call on them for support.

I also have a tight-knit family I can rely on when things get a little stressful.

There are many folks out here working with youth directly. I could reach out to some of them.

## EXAMPLE: STEM professional



### WHO: Latinx youth ages 10-12

I would like to focus on Latinx youth between the ages of 10-12 primarily. That time is often when we are figuring out who we are and what we like to do. I want to make sure that they know my path, a STEM path, is possible for them too.



### WHY: To be a positive representation for Latinx youth

My parents are from Mexico. Although I was raised in the United States, I am steeped in our cultural heritage. As a physicist I don't see many Latinx people in my field. I want to be a force for good and positive representation for Latinx youth. My goal is to show them, just by being me, that their ability to grow and succeed in STEM is possible.



### MY GOAL: To volunteer quarterly and bring students into my workplace

- I want to be in front of students, volunteering in some capacity, once per quarter.
- It's important for students to visit real work spaces, so I intend to identify one school or program that focuses on Latinx youth and create opportunities for them to visit my work environment.



### MY POWER 3: Identify and connect with three people or organizations

My niece, **Laura**, is in the the fourth grade. I'll start talking with her, her friends and her parents to get a better idea of what they are learning in science both in and outside of the classroom.

**Stacy** in Human Resources leads my company's volunteer program. She can provide insight on the process and help me think through ways

other staff members could participate in an effort.

**Revolución Educativa** is an organization that supports Latinx empowerment and advocacy. Getting more connected and involved in that organization can open access to resources that support my goal.



### MY STRATEGY: Ask questions & network

**Talk directly to the source by setting up an informal focus group** + ice cream with Laura and friends.

Prepare a few age-appropriate questions in advance to see where and how they are learning basic science concepts. Do the same with her parents and other parents I know with elementary age students.

Reach out to Stacy for a coffee to **learn more about how the company supports volunteer opportunities** for employees. Identify if there is a process for recommending a school or program to be supported.

**Attend Revolución Educativa events.** Find out what programs they support and begin to create a network of individuals interested in the same goal.



### MY COMMUNITY: Name my emotional, social & professional connections

I am part of an organization that focuses on supporting Latinx professionals in science.

I can reach out to my group of friends from college who also chose to pursue a STEM career.

I am still connected to the predominantly Latinx community where I grew up. Some of my longtime friends now work with youth. I could stop by and see what they need.



1. Choose your "who." Who are you in a unique position to reach? Describe who and why here.

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2. Define a personal power statement. Return to this "why" when you need a recharge.

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3. Spell out your goals. Be specific.

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4. Get proximate to power. List three people or organizations with the power to help you meet your goals.

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5. How will you engage with the three people or organizations listed above?

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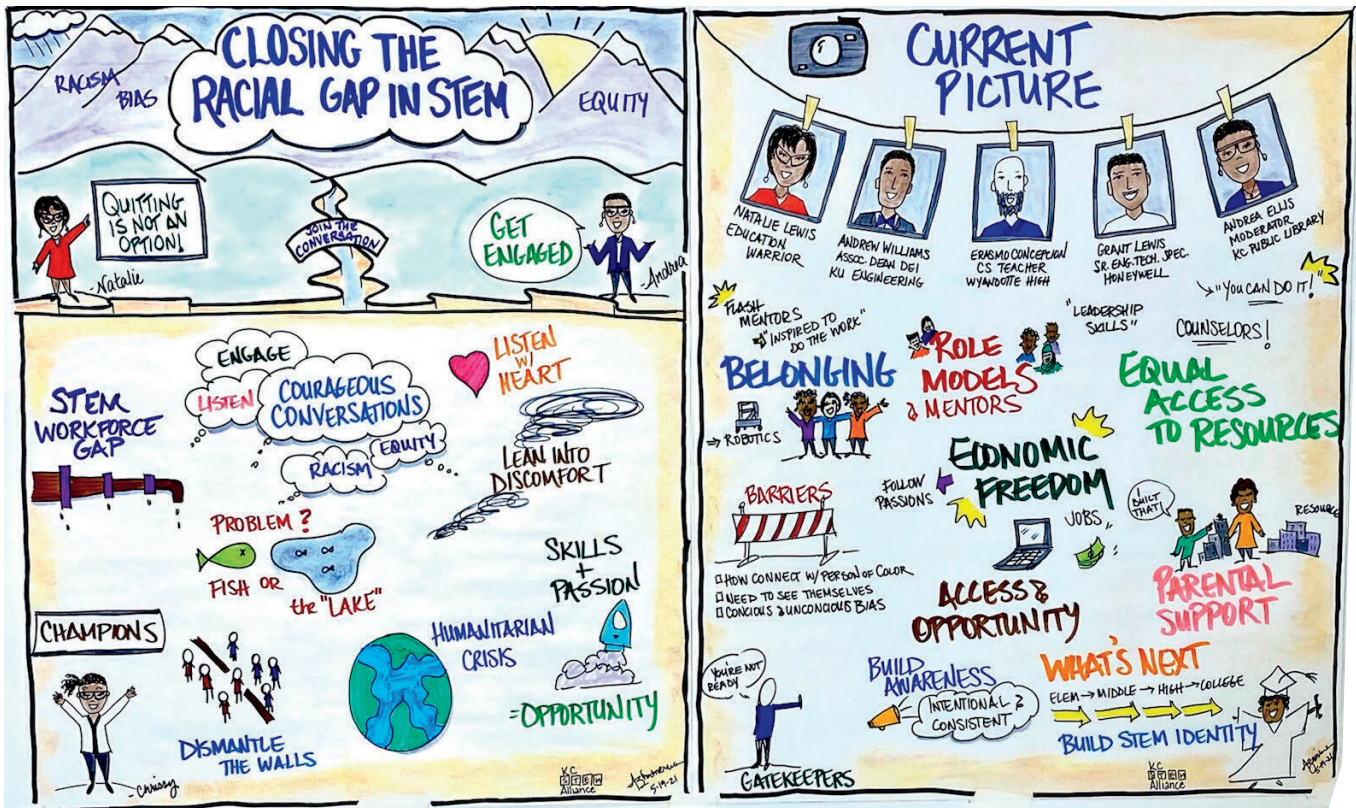
6. Build your community. Who will you turn to for support? Who can help you with information or introductions? List them here.

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MY TIMELINE:





## PANELISTS



### Keynote Speaker:

**Natalie Lewis** is a chemical engineer, educator, former school board member and self-described education warrior. She has served on the non-profit boards of Green Works in Kansas City, KC STEM Alliance and WeCode KC and has served as advisor for a number other community-based organizations.

### Panelists:

**Grant Lewis** is a Senior Engineering Tech Specialist at Honeywell, where he's worked for more than 20 years. Grant brings a passion for introducing young people to new opportunities through STEM and has created numerous opportunities for young people in the greater Kansas City and St. Louis metro areas.

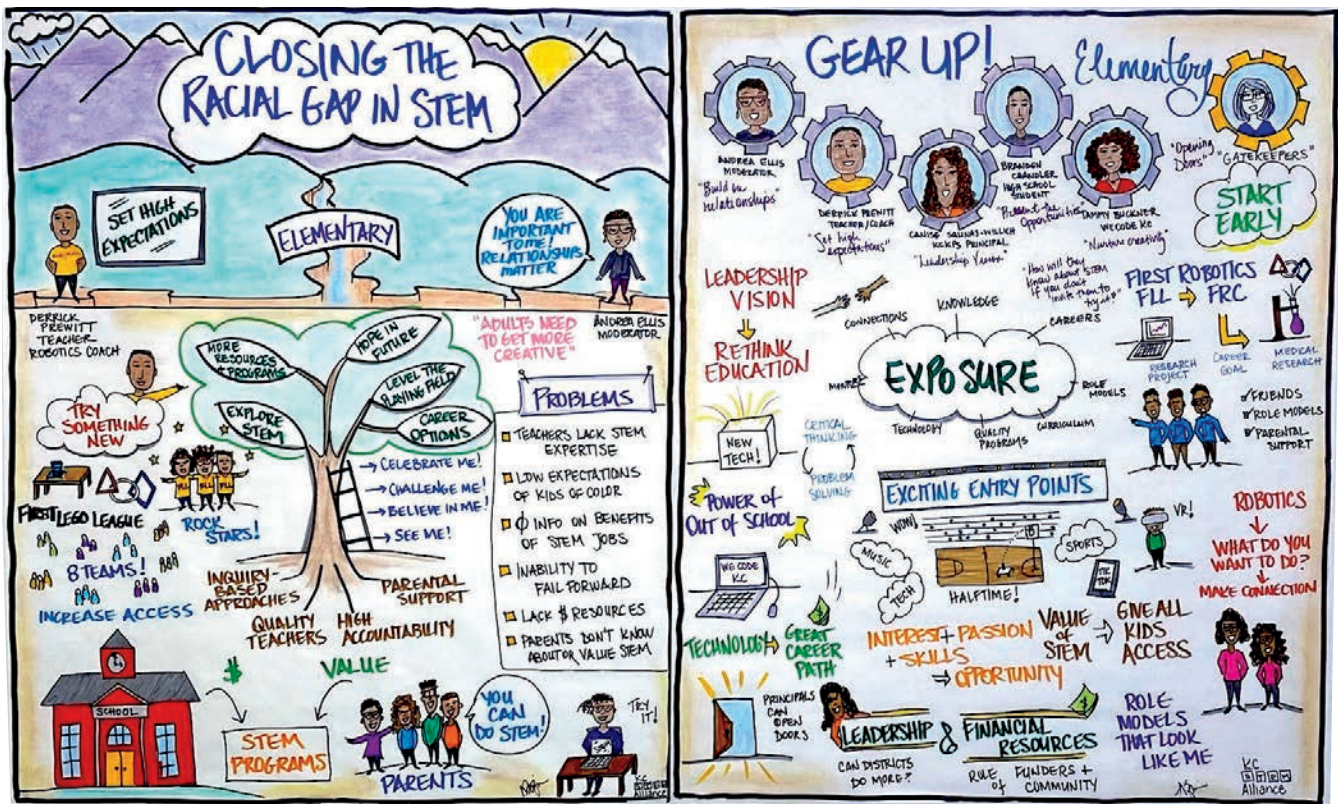


**Dr. Andrew Williams** is past Associate Dean for Diversity, Equity, & Inclusion and professor of electrical engineering and computer science at the University of Kansas School of Engineering. At Spelman College, he founded the SpelBots, the first all-female, African American international RoboCup (robotics and AI) team. Dr. Williams is the author of "Out of the Box: Building Robots, Transforming Lives." He's currently the Dean of Engineering and the Louis S. LeTellier Chair at The Citadel School of Engineering in Charleston, S.C.

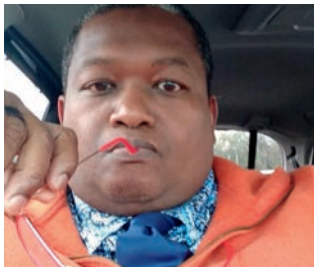
**Erasmus (Raz) Concepcion** is a teacher at Wyandotte High School in Kansas City, Kan. A Marine veteran, he's helped build a new Computer Science Academy with over 350 students in just four years.



**WATCH:** [www.kcstem.info/OpeningSession](http://www.kcstem.info/OpeningSession)



## PANELISTS



### Keynote Speaker:

**Derrick Prewitt** teaches STEM courses including Project Lead The Way Design & Modeling and Automation & Robotics at Center Middle School, where he also coaches two robotics teams—one boys and one girls. He previously spent 24 years as an elementary school teacher and coached eight *FIRST* LEGO League robotics teams at Center Elementary School.

### Panelists:

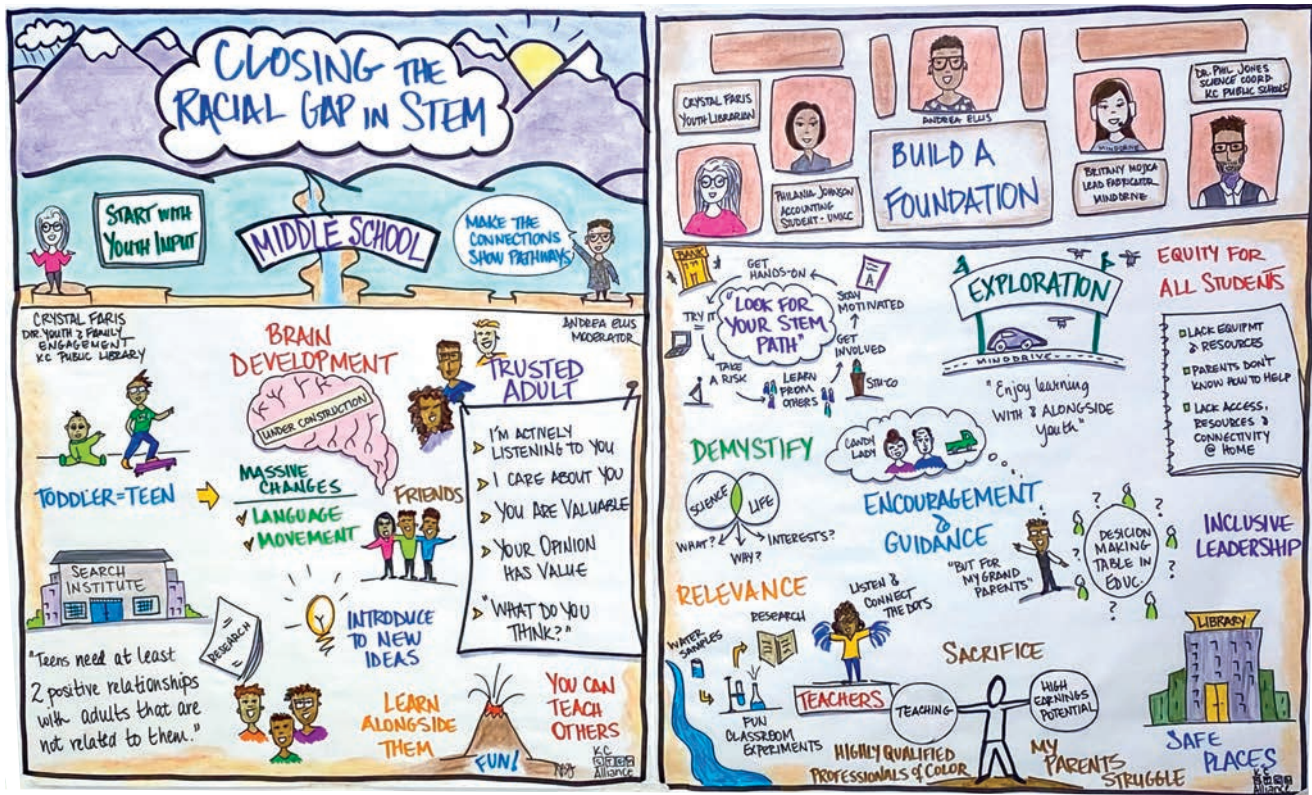
**Canise Salinas-Willich** is a school administrator who began her career as an elementary counselor before moving into leadership roles that included 10 years as an elementary school principal. She is currently pursuing her doctorate and teaches Multi-Cultural Education at the University of Kansas and the University of Saint Mary.

**Brandon Chandler** is a 2022 graduate of Center High School, where he served as the team driver for the *FIRST* Robotics Competition team. He's been involved in *FIRST* programs since 3rd grade. Brandon will major in Biomedical Research on a pre-med track at the University of Missouri-Columbia.

**Tammy Buckner** is founder of Techquity Digital and co-founder of We Code KC, a nonprofit that introduces youth in the urban core of Kansas City to technology, cybersecurity and cool hardware projects using Raspberry Pi.

As an active member of the startup ecosystem and women programming organizations, Tammy works at bridging the diversity divide in technology and as a connector for entrepreneurs, educators, business owners, schools and community centers.

**WATCH:** [www.kcstem.info/BTGEElementary](http://www.kcstem.info/BTGEElementary)



## PANELISTS



### Keynote Speaker:

**Crystal Faris** is the Director of Youth & Family Engagement for the Kansas City Public Library. With more than 30 years in youth librarianship, she has led youth services for Kansas City Public Library for 16 years. Before coming to Kansas City, she was the Youth Services Manager for the Nassau (County, NY) Library System and taught at Queens College Graduate School of Library & Information Science.

### Panelists:

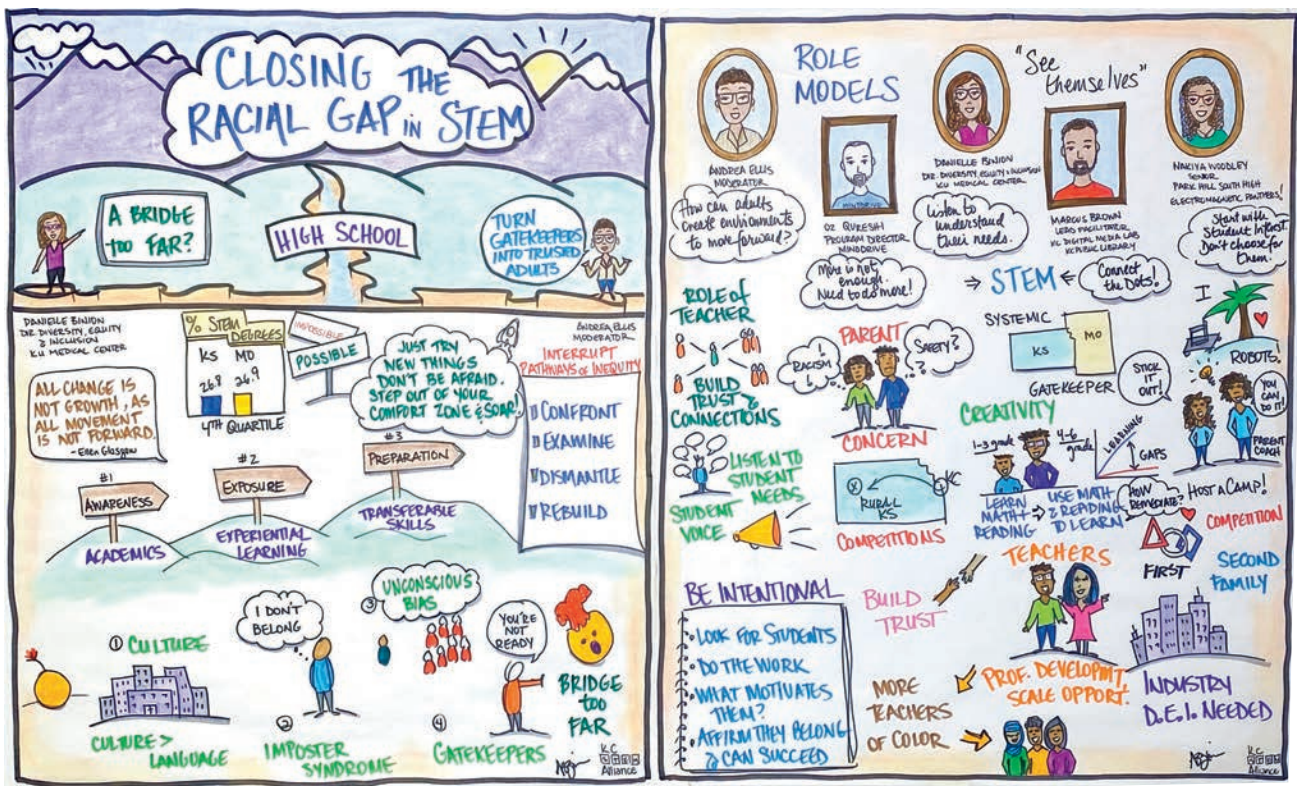
**Britany Mojca** joined MINDDRIVE as a high school sophomore and graduated from Alta Vista Charter High School in 2016. After initially returning to MINDDRIVE as a mentor, she joined the MINDDRIVE staff as a facilitator. As a student at the nonprofit she gained manual and critical thinking skills, but also learned to navigate a male-dominant field with confidence and professionalism. She hopes to continue guiding young people so that they, too, have the same chance to thrive.

**Philania Johnson** is a 2020 graduate of Paseo Academy of Fine and Performing Arts High School, where she was class Valedictorian, class President and Vice President of the National Honor Society. Johnson is studying accounting at the University of Missouri-Kansas City as a KC Scholar. She enjoys spending time with her family and shopping and has worked in several positions at Cosentino's Market.

**Dr. Phil Jones** is passionate about differentiated instruction and actively looks for ways to infuse new research and best practices into professional development for teachers and classroom instruction for students. He earned his Ph.D. in Marine Estuarine Environmental Science and has worked with three colleges/universities and for three public/charter school districts.

**WATCH:** [www.kcstem.info/BTGMiddle](http://www.kcstem.info/BTGMiddle)





## PANELISTS



**Keynote Speaker: Danielle Binion** is Director for Diversity, Equity & Inclusion at the University of Kansas Medical Center. She has served school districts in the heart of Kansas City through her previous work at PREP-KC and has specialized career experience in recruiting and facilitating partnership teams, program piloting, strategic planning, multicultural program management, recruitment of underrepresented populations and student intervention and retention strategies. She's pursuing a Doctor of Education in Leadership in Higher Education.

**Panelists: Oz Qureshi** is the Program Director for MINDDRIVE. A member of the AAPI community, Oz has been working with youth for over 15 years. At MINDDRIVE, he's added drones, robotics and e-sports, and strengthened the Electrathon car racing program and Welding Art Studio. The Engineering Design Studio he developed provides credit-earning classes and onsite programming to nine school districts.

**Marcus Brown** is the lead educator for the Kansas City Public Library's Digital Media Lab, a hands-on environment for youth to engage in the latest technologies. A graduate of the University of Missouri-Kansas City, Marcus has worked in education and multimedia for more than 15 years. At The Genesis School he worked with students to produce live in-studio and field productions for weekly radio shows. He's experienced in online learning, facilitating small groups and one-on-one learning over the web and has conducted numerous workshops for local schools and nonprofits.

**Nakiya Woodley** is a 2022 graduate of Park Hill South High School, where she served as community outreach and mechanical captain on her *FIRST* Robotics Competition team. She has been involved in *FIRST* for eight years. Nakiya plans to major in Mechanical Engineering.

**WATCH:** [www.kcstem.info/BTGHIGHschool](http://www.kcstem.info/BTGHIGHschool)



## PANELISTS



**Keynote Speaker:** **Samara Crawford Herrera** is Executive Director of the newly launched Kansas City Action Fund, where she works to convene, connect, leverage and drive the Kansas City community to support and demand educational opportunities that lead to the liberation of our most marginalized learners through an education that centers equity and excellence. A social worker, community organizer and early education specialist by education and training, Samara earned master's degrees in social work and education.

**Panelists:** **Sequoia Beauchamp** teaches fifth grade in the Center School District, where she was recently named building teacher of the year. She is a Project Lead The Way Launch Lead Teacher, has taught Camp Invention and has participated in multiple aspects of *FIRST* Lego League robotics, including coaching and judging events.

**Edgar Palacios** is the founder of the Latinx Education Collaborative. Born in Miami to a family of immigrants who fled Nicaragua during the civil war, Edgar's childhood experiences helped him understand that for school-aged children, meaningful and trusting relationships with relatable educators and role models matters just as much as math and science classes. He founded the Latinx Education Collaborative to increase the representation and support of Latinx education professionals in the K-12 space by providing a nurturing place to collaborate and build innovative solutions.

Philadelphia native **Sylvester Mobley** is the founder and CEO of Coded by Kids, a youth tech education non-profit that gives underrepresented young people the support and resources needed to become next generation tech and innovation leaders. A military veteran and graduate of Temple University's Fox School of Business, Mobley is a frequent speaker and panelist, focusing on equity in tech and innovation.

**WATCH:** [kcstem.info/BTG-ClosingSession](http://kcstem.info/BTG-ClosingSession)

## NOTES & CREDITS

### ABOUT THE CONVERSATIONS

The Closing the Racial Gap in STEM Education Series took place in spring of 2021 with an interactive webinar format. Each session opened with a brief keynote address, followed by a panel discussion and audience Q&A.

Major concepts or highlights from each conversation were captured with a graphic recording. Access all recordings at [www.KCSTEM.org/BeyondTheGap](http://www.KCSTEM.org/BeyondTheGap)

### EDITOR'S NOTE

This report was drawn from a detailed analysis of the transcripts from all five conversations. We have strived to use inclusive and empowering language in this presentation of our findings, yet recognize that the terminology used to refer to racial and ethnic groups changes over time and that preferences vary widely.

For purposes of this report, we adopted guidelines consistent with the Associated Press Style Guide, although we chose the gender-equitable Latinx as the preferred noun or adjective for a person from, or whose ancestors were from, a Spanish-speaking land or culture or from Latin America.

### THE PROJECT TEAM

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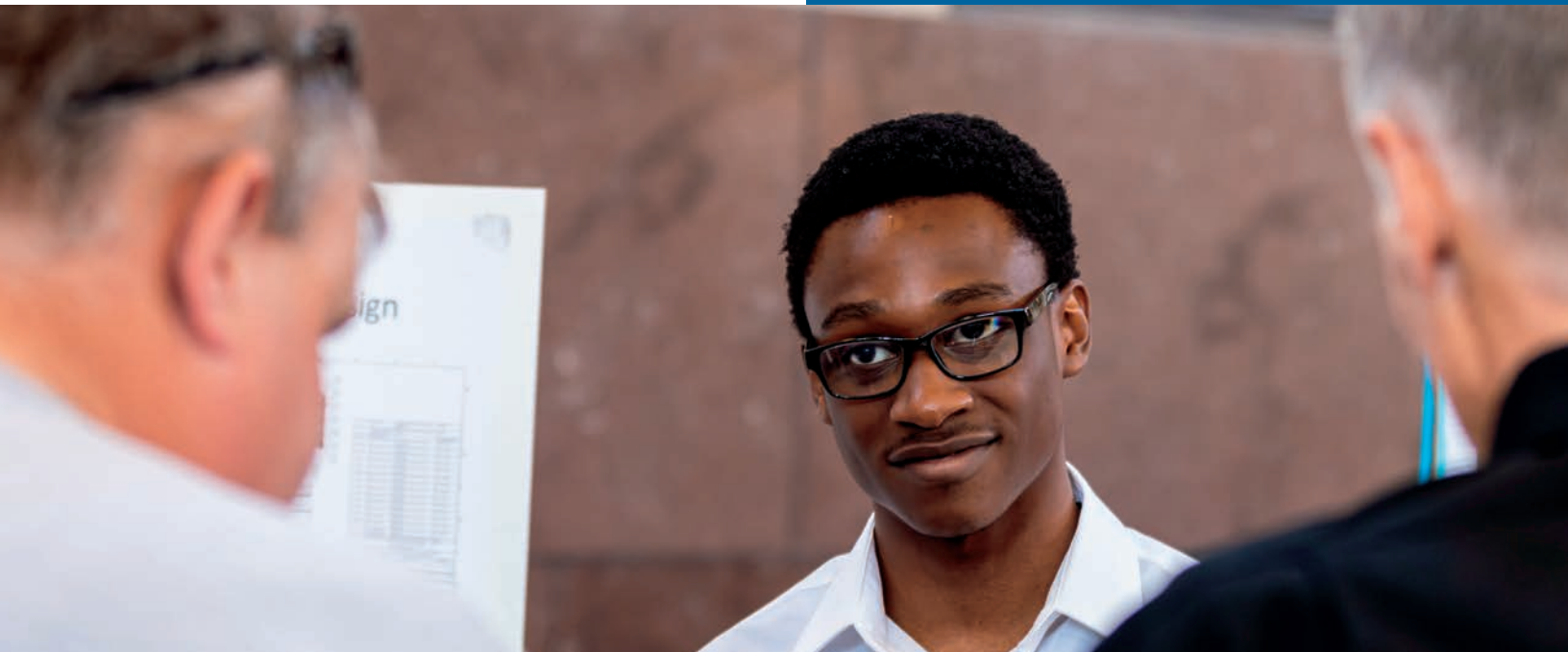
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