Recognizing STEM leaders from underrepresented groups who encourage the next generation to pursue STEM education and careers

ALSO IN THIS ISSUE:

Colleges work to engage underrepresented groups in climate change efforts

A celebration of National Hispanic-Latino Heritage Month
Cal Poly Pomona College of Engineering congratulates Dr. Cordelia Ontiveros and Dr. Mónica Palomo for being selected as recipients of the 2017 Inspiring Leaders in STEM Award.

Dr. Cordelia Ontiveros and Dr. Mónica Palomo have worked alongside each other on a variety of outreach efforts, including:

Femineer© Program: This unique program inspires and empowers current and future STEM leaders, providing K-12 students with project-based learning, engineering student mentors, and opportunities to visit Cal Poly Pomona.

Cal Poly Pomona’s Women in Engineering (CPP WE): CPP WE promotes a close community for engineering students through proactive retention activities and seeks to create an environment in which women can thrive in the classroom and beyond in their careers.

Dr. Cordelia Ontiveros

Dr. Mónica Palomo

Learn by Doing: Making Imagination Real
The STEM Outlook: Education, Occupations, and Salary

Inclusion of Diverse Groups in STEM Leads to Increased Creativity, Innovation
By Lisa McBride, PhD

Institutions Leverage Grants to Close the Diversity Gap in STEM Education, Employment
By Kelley R. Taylor

UMass Lowell Addresses Gender Bias in STEM Academia Through New Initiative
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Changing the Face of Climate Change Science
By Alexandra Vollman

INSIGHT Q&A with Damon A. Williams, PhD

Trump Administration Proposes Merger of EEOC and OFCCP Under Guise of Efficiency
By Shirley J. Wilcher, JD
At East Carolina University, our focus on providing our students a global education begins right here at home. We attract a vibrant, talented, and culturally diverse student body—and offer dynamic academic programs focused on science, technology, engineering, and math.

An ECU education celebrates students’ backgrounds and achievements—but also prepares them for bright futures. Our classrooms, labs, seminars, and study-abroad opportunities in STEM are led by faculty who are not only leaders in their fields but experts in the latest STEM trends and discoveries.

At ECU, we build on the strengths of our students—and guide them to their full potential.
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NMSDC Launches Program to Help Minority Millennials Become Successful Entrepreneurs

The National Minority Supplier Development Council (NMSDC) recently announced the launch of a new initiative to assist the millennial generation of minority entrepreneurs. Sponsored by MetLife and created and facilitated by human resources firm McPherson|Berry, the Emerging Young Entrepreneurs (EYE) program will offer participants transformational learning and business development to help them start and grow small businesses.

This yearlong program begins in late October with a five-day, hands-on training session at NMSDC’s annual conference in Detroit, where participants will learn the skills, tools, and strategies to launch their own businesses as well as maximize opportunities for growth. EYE provides them with a blueprint for how to successfully start and sustain a new venture by taking them through the assessment, think tank, feasibility, and execution stages of the business development process, with a special interest in science, technology, engineering, and math fields.

With expertise provided by industry professionals, executives, and faculty members from across the country, the program works to educate entrepreneurs on the five key areas of running a successful company, improve their understanding of the needs of organizations to build innovative solutions, and increase their business acumen. Following the initial training, facilitators will engage with participants throughout the following year to continue their development and track their progress, as well as guide these entrepreneurs through the minority business enterprise certification process.

Eligible individuals include minority undergraduate students in their junior or senior year of college — or those at the graduate level — who have an innovative business idea “that can solve current business, community, or life challenges,” as well as individuals of color ages 19 to 35 who are entrepreneurs, according to NMSDC’s website. The organization will select 20 individuals to participate in EYE’s first year, and it hopes to continue the program going forward.

For more information, visit nmsdc.org/eye.
— Alexandra Vollman

Google Employee’s Anti-Diversity Memo Sparks Outrage

A 10-page manifesto criticizing Google’s diversity efforts was leaked from the company’s internal messaging system on August 5, sparking criticism from those who say the document exemplifies sexism within the tech industry. The anonymous message was later identified as having been written by James Damore, a software engineer with the multi-billion dollar company. Google is currently under investigation by the U.S. Department of Labor for systemic pay disparities between male and female employees.

The 3,300-word document, titled “Google’s Ideological Echo Chamber,” focuses primarily on issues of gender inclusion in the workplace and criticizes company policies and programs that aim to help women advance in their careers. In it, Damore blames biological differences between the sexes for the underrepresentation of women in the workplace as well as the pay gap. His use of numerous stereotypes to justify his reasoning has drawn widespread criticism; included among the memo’s statements is the idea that women are naturally more neurotic and emotional than men and are motivated primarily by relationships and work-life balance, rather than by professional aspirations. Damore also states that while he “strongly believes in gender and racial diversity,” the company’s inclusion efforts — including classes and mentoring programs for women and minorities — are discriminatory in nature by prioritizing “diversity candidates” over those of other demographics.

Google spokeswoman and Vice President of Diversity, Integrity, and Governance Danielle Brown — who was hired by the company in July — stated that the memo is an example of the tech industry’s traditionally exclusionary culture and does not reflect Google’s internal atmosphere or policies. Some Google employees took to social media and news outlets to share their thoughts on the memo, with some saying that it is a reflection of pervasive sexism within the tech industry at large and others stating that it accurately represents Google’s internal culture.

Damore was fired from Google two days after the memo was leaked to the press. He announced that he plans to take legal action against the company for what he believes is wrongful termination.
— Mariah Bohanon
As one of the most ethnically and racially diverse institutions of higher education in the U.S., the University of Bridgeport (UB) in Connecticut is home to a student population that is 29 percent international. More impressive is the School of Engineering’s international student population, with 1,135 currently enrolled from 35 countries.

With 12 degree programs in six concentration areas, UB’s engineering school offers opportunities for students from all over the world to work on creating solutions to the most pressing global issues of the day, in areas such as biomedicine and renewable energy.

Students in the school’s Grand Challenge Scholars Program, for instance, have the opportunity to conduct innovative research on solar energy and the reverse engineering of the human brain. Eighty-five percent of program participants are international students, which helps ensure that research is approached from diverse perspectives. Similarly, the school boasts an engineering faculty that is predominantly international and 36 percent female.

International Student Representation

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With more than 60 current scholars and 40 alumni, Bucknell University’s Engineering Success Alliance is a robust learning community created to improve outcomes for students from diverse backgrounds — typically underrepresented in engineering — through additional academic resources, community building, mentorship; and peer, faculty and alumni support.

To learn more visit, bucknell.edu/esa or email esa@bucknell.edu.
For underrepresented students, it can be difficult to find mentors and role models in their academic fields with whom they can connect. This can be especially true at larger universities, where the prospect of identifying a mentor among hundreds, if not thousands, of faculty and staff can be overwhelming. At the University of Wisconsin-Madison (UW-Madison) — home to more than 43,000 students and approximately 2,500 faculty members — the task of finding a mentor in science, technology, engineering, and math (STEM) disciplines has become streamlined thanks to an innovative new resource designed specifically for underrepresented students.

The STEM Diversity Network is a university-sponsored website that provides a comprehensive list of STEM “Diversity Advocates” — a title given to faculty members who exhibit a dedication and willingness to support minorities and women in STEM.

Ahna Skop, PhD, an associate professor of genetics at UW-Madison, first developed the idea for the STEM Diversity Network two years ago while serving as chair of the College of Agricultural and Life Sciences’ (CALS) Equity and Diversity Committee. The idea grew out of a recognition that, as a large university with many different STEM divisions, it was difficult for faculty and students to develop interdepartmental connections.

“One of the problems that comes up on a big campus like this is that diversity advocates are everywhere, but students don’t know who’s out there and who might be a good contact to have,” explains Skop. “One of the main goals of having a website like this is to house all of these people who are working in STEM diversity efforts or who can be good mentors in this area.”

With help from a grant from the Alfred P. Sloan Foundation, UW-Madison officially launched the STEM Diversity Network in April of this year. The project soon attracted attention across campus and in the community; it was recognized by local and state media and was eventually awarded additional funding from the Office of the Chancellor. Now, she says, students and faculty alike are discovering and recognizing the site for the valuable resource that it is. It not only helps people find instructors and colleagues with similar passions, but also provides advice, articles, and additional resources devoted to supporting underrepresented groups in STEM.

The STEM Diversity Network has already helped connect many students with faculty mentors, and Skop says she plans to continue growing the site. In addition to pulling relevant resources off the web, she intends to recruit members of the university community to create user-generated content, including articles and videos to highlight underrepresented student success. Similarly, she says she will expand the site’s focus by adding postgraduate and faculty resources as well.

Skop and her team have also discussed expanding the STEM Diversity Network beyond UW-Madison. Such a move would allow other institutions to create individual sites that would link to a collaborative homepage that provides general STEM diversity resources.

“The site is a great model for how to connect students and advocates and to create dialogue,” she says. “It’s a great way to show students that there are people who truly care about their success.”

For more information, visit stemdiversity.wisc.edu.

— Mariah Bohanon

Our October 2017 Issue: Entrepreneurship and Business Schools

In our next issue, we will examine efforts by business schools and organizations to recruit and engage students from underrepresented groups, as well as help them launch successful businesses. We’ll also recognize National Disability Employment Awareness Month.

The advertising deadline is September 8. To reserve space, call (800) 537-0655 or email ads@insightintodiversity.com.
They work hard. We open doors.
Opportunity for all students.

Our society is strengthened by leaders of diverse perspectives and backgrounds. At UC Davis, we have people and innovative programs in place to help all students succeed — starting from grade school and extending beyond graduation. From those opportunities come great new leaders. We’re building the future together, one Aggie at a time. Learn more at 21stcentury.ucdavis.edu.
ALABAMA
G. Christine Taylor, PhD, has been appointed vice president and associate provost for diversity, equity, and inclusion at the University of Alabama in Tuscaloosa. She was most recently the chief diversity officer and vice provost of diversity and inclusion at Purdue University in West Lafayette, Ind.

CALIFORNIA
Tami Bui has been named associate vice president for government and community relations in the Division of University Advancement at California State University, Fullerton. She retains her position as principal manager for corporate philanthropy for Southern California Edison.

IOWA
Monique DiCarlo has been appointed Title IX coordinator at the University of Iowa in Iowa City. She previously served as director of the university’s Women’s Resource and Action Center.

MARYLAND
Roger L. Worthington, PhD, has been appointed interim associate provost and chief diversity officer at the University of Maryland, College Park. He previously served as professor and chair of the Department of Counseling, Higher Education, and Special Education in the university’s College of Education.

MINNESOTA
Karen Diver has been named Faculty Fellow for Inclusive Excellence with a specialization in Native Studies at the College of St. Scholastica in Duluth. She was most recently special assistant to the president in native affairs under the Obama administration.

MISSISSIPPI
Ivory V. Nelson, PhD, has been appointed interim provost at Jackson State University. He previously served as president of Lincoln University in Pennsylvania.

NEVADA
Barbee Oakes, PhD, has been named chief diversity officer at the University of Nevada, Las Vegas. She was most recently the inaugural chief diversity officer for Wake Forest University in Winston-Salem, N.C.

NEW YORK
James A. Felton III, PhD, has been appointed chief diversity officer for the State University of New York at Cortland. He previously served as the inaugural chief diversity officer at Anne Arundel Community College in Arnold, Md.

NEVADA
Gene Andrew Jarrett, PhD, has been named the Seryl Kushner Dean of the College of Arts and Sciences at New York University in New York City. He was most recently the dean of faculty in the humanities department and a professor of African American studies at Boston University.

Havidán Rodríguez, PhD, has been selected as the 20th president of the State University of New York at Albany. He currently serves as executive vice president for academic affairs at the University of Texas Rio Grande Valley in Brownsville.

NORTH CAROLINA
Paulette Dillard, PhD, has been named interim president of Shaw University in Raleigh. She was most recently vice president of academic affairs at the university.

OHIO
Maurice Stinnett, EdD, has been named vice president of engagement and chief diversity officer at Cleveland State University. He was most recently dean of students at Central State University in Wilberforce, Ohio.

PUERTO RICO
Kenira Thompson, PhD, has been selected as the first Hispanic woman to serve on the National Steering Committee for the Group on Research Advancement and Development of the Association of American Medical Colleges. She retains her positions as president of Ponce Research Institute and vice president of research at Ponce Health Sciences University in Ponce, Puerto Rico.

WYOMING
Emily Monago, PhD, has been named the inaugural chief diversity officer at the University of Wyoming in Laramie. She previously served as director of the Office of Multicultural Affairs at Bowling Green State University in Ohio.

Has your campus recently hired a new diversity administrator? INSIGHT Into Diversity would like to publish your news. Please email editor@insightintodiversity.com.
The University of Virginia Biomedical Engineering program is regularly recognized among the top programs in the country for its research, educational, and translational activities. Collaboration across the Schools of Medicine and Engineering drive more recent research excellence in computational systems, biology, tissue engineering, and cell and molecular engineering. The Biomedical Engineering Department has a rich tradition of interdisciplinary research, leading to fundamental discoveries in biology and revolutionary advances in medical practice.

To Learn More, go to: bme.virginia.edu
ICMCP Strives to Expose Underrepresented Youth to Cybersecurity Careers

By Mariah Bohanon

The field of cybersecurity is expected to have as many as 1.8 million unfilled jobs worldwide by 2022, according to the Center for Cyber Safety and Education. The shortage of workers able to fill these positions is exacerbated by the fact that the professional pipeline for such careers is overwhelmingly homogeneous. In the U.S., women make up just 21 percent of the information security workforce, while African Americans, Asian Americans, and Hispanics combined comprise less than one-third, according to the U.S. Bureau of Labor Statistics (BLS).

Devon Bryan, executive vice president and chief information security officer for the Federal Reserve System, wants to remedy cybersecurity’s diversity problem. Thus, in 2014, Bryan and three of his colleagues formed the International Consortium of Minority Cybersecurity Professionals (ICMCP) to advance opportunities for women and people of color in the profession.

“With cybersecurity being one of the nation’s key strategic priorities — and with the escalation of cyber incidents impacting various sectors — we network defenders need all the help we can get,” says Bryan. “There’s no reason why women and people of color should have the low levels of representation that they do when there are so many opportunities in this industry and such a need for skilled practitioners.”

Now in its second year, ICMCP has a thriving mentorship program that connects underrepresented cybersecurity students with industry leaders, as well as a scholarship program that has distributed more than $150,000 to minority and female students. The organization is run entirely by volunteers and operates solely on donations from individuals and partner organizations. Although ICMCP doesn’t charge dues, it does ask members to participate in career days at local schools and in other activities that raise awareness of the cybersecurity profession.

“There are a number of misperceptions about the kind of people who [work in] cybersecurity,” Bryan says. “With our members being women and people of color, they change the perceptions for elementary, middle, and high school students of what cyber professionals look like and do.”

Aric Perminter, founder of Lynx Technology Partners and president of ICMCP, believes that providing opportunities for students to engage firsthand in cybersecurity activities is key to expanding and diversifying the field. With this belief in mind, ICMCP is developing a program to help colleges and universities establish educational security operations centers (ESOCs), which, with the help of government and private sponsors, will provide students with access to real-world technology and training.

ESOCs help increase awareness — on campuses and in communities — of the exciting opportunities available in cybersecurity for young people, Perminter says. This is one reason why one of ICMCP’s partner institutions intends to build its center directly across the street from a neighboring high school. “They want the high school students to be able to come over and be exposed to what the college students are learning through the ESOC experience,” explains Perminter. “That is what is going to really begin to address the larger issue related to the skills gap in cybersecurity; we need to be introducing people to cybersecurity at a much earlier [age].”

While ICMCP has big plans for its ESOC initiative, the organization’s other projects include developing a veterans’ outreach program and expanding professional development opportunities for ICMCP members. This year, for the first time, the organization was able to provide 20 members funding to attend Black Hat USA, the country’s largest cybersecurity conference; 15 of these attendees were underrepresented college students, according to Perminter.

“This is an opportunity for those individuals who may or may not be certified professionals to be immersed in the cybersecurity community,” he says. “That is our main goal, to provide opportunities that have an impact on the lives of our members in order to ultimately bridge the great minority cybersecurity divide.”

Mariah Bohanon is a senior staff writer for INSIGHT Into Diversity. For more information about ICMCP, visit icmcp.org.
Every year, from Sept. 15 to Oct. 15, we celebrate the culture and recognize the contributions made by Hispanic and Latino Americans to the U.S. In honor of this year’s theme, “Shaping the Bright Future of America,” INSIGHT Into Diversity recognizes leaders who have helped advance the cultural, educational, and political landscape of our country.

Arguably one of the most famous Hispanics in American history, César Chávez was a leader in the U.S. Labor Movement. A former migrant worker, Chávez founded the National Farm Workers Association in 1962 and gained fame for his nonviolent approach to protesting for the civil rights of immigrants and laborers.

Sandra Cisneros is a renowned author whose bestselling novels, poetry, and nonfiction center on the experiences of those living in the Latin American diaspora. A dual citizen of the U.S. and Mexico, she is a recipient of a MacArthur Fellowship, the PEN Center USA Literary Award, and the National Medal of the Arts.

Having served as secretary of California’s Business, Transportation, and Housing Agency and as head of the federal Small Business Administration under President Barack Obama, Maria Contreras-Sweet has dedicated her career to serving the public good. Originally from Guadalajara, Mexico, she is the founder of ProAmérica Bank and an advocate for patient rights and equal pay for women.

Eduardo J. Padrón, PhD, has served as president of Miami Dade College for 22 years. He is a former chair of the American Council on Education and the Florida chapter of the National Association for the Advancement of Colored People, as well as other organizations. For his efforts to improve educational access and equity, Padrón was awarded the Presidential Medal of Freedom in 2016.

Jorge Ramos is a leading figure in Hispanic-American media and the immigrant rights movement. He is a New York Times columnist, the author of 10 books on the Latino immigrant experience, and a longtime anchor of Univision’s nightly news, for which he has earned eight Emmy awards for excellence in journalism and a reported 2 million daily viewers.

Sonia Sotomayor, JD, is the first Hispanic and third woman to ever be appointed to the U.S. Supreme Court. A descendant of Puerto Rican immigrants, she is considered a champion of human rights, having played an integral role in the legalization of same-sex marriage and the upholding of federal healthcare subsidies through the Affordable Care Act.
Damon A. Williams, PhD

Years after the release of his books on diversity leadership in higher education, the need for even greater change remains.

The groundbreaking books by Damon A. Williams, PhD, *Strategic Diversity Leadership: Activating Change and Transformation in Higher Education* and *The Chief Diversity Officer: Strategy, Structure, and Change Management*, co-authored with Katrina Wade-Golden, PhD, provided diversity champions with a navigation system for doing the work of diversity and inclusion and leading change on their campuses.

Yet four years later, the issues faced by colleges and universities remain much the same. Progress has been glacial, but leveraging the principles of strategic diversity leadership is more important now than ever.

The election of President Donald Trump has made the drive for inclusive excellence even more urgent, particularly with the resurgence of hate crimes on campuses, the promise of a new wave of attacks on race-conscious admissions programs, impending rollbacks of Title IX protections for gender equality, and the partially approved travel ban that has restricted visitors and immigrants from parts of the Muslim world.

In an interview with INSIGHT* Into Diversity*, Williams said he has continued to evolve his thinking on diversity and inclusion. He currently has an even more dynamic perspective after having served as senior vice president and chief education officer for the world’s largest youth development organization, The Boys & Girls Clubs of America (BGCA).

He spoke powerfully about his work creating partnerships with Disney, Toyota, Comcast, UPS, the U.S. Department of Defense, the National Science Foundation, and the National Institutes of Health, among others. These partnerships have provided him even more clarity regarding the connections between K-12, higher education, government, and corporate communities.

Williams hopes to supercharge the strategic diversity leadership movement through national tours, collective impact initiatives, technology, and an even greater focus on evidence-based practice and accountability. At the top of his agenda is helping leaders close the achievement gap, increase faculty diversity, expand minority and gender representation in STEM, create pathways to workforce development, and improve the campus climate for inclusion.

Q: What was your experience like leading initiatives at BGCA?

A: My goal has always been to be one of the most impactful leaders of my generation, to look in the mirror and know that I gave everything I had to make a difference in the lives of others. I knew that I had to spend some time outside of higher education, moving the puck of diversity and inclusion at the K-12 and corporate levels.

To work at BGCA was an opportunity for me to serve nearly 4 million diverse young people, many of whom live in very challenging circumstances. To serve in that movement was an honor and one of the most rewarding experiences of my life.

Q: How has your time in the nonprofit world shaped your thinking on diversity and inclusion, as well as higher education more generally?

A: I had a chance to partner directly with C-suite leaders in some of the most amazing organizations in the world — Coca Cola, Taco Bell, the Schwab Foundation, Microsoft, the Wallace Foundation, to name a few —
and through that work, I came to appreciate several things. One is that leaders across sectors are making million-dollar bets on the next generation, hoping they’ll develop the skills necessary to not only go to college, but to be prepared to lead.

I had researched corporate responsibility and diversity initiatives in the corporate and government sectors, but to partner with leaders and be in the trenches building new initiatives and serving in our community was really eye-opening and emboldening in so many ways. It made me realize that we must have an ecosystem leadership perspective where we see how all pieces work together.

Higher education leaders can no longer lead in silos. We have to understand that strategy is not about mimicking what our peers are doing; it is about understanding your competitive environment, homing in on your competitive advantages, and building dynamic partnerships that help you win at an even higher level.

With the current change in demographics in the U.S., the emergence of a global economy and new technologies, and the increasing prominence of the business case for diversity, we have to engage issues of diversity as a major strategic priority as never before.

Q: After four years, what are you most proud of from your time working with youth and teens on the national level?

A: I was brought in to be a senior leader on the Great Futures Campaign for Impact, and we were incredibly successful over the last five years, raising nearly $450 million in gifts and grants to drive impact and change. What I am most proud of is that we increased teen membership after a more than 10-year decline and created the first digital youth engagement platform, My.Future, that will allow club youth around the world to engage in coding and multimedia experiences to help them overcome the digital divide.

Almost 21 million youth — many of them African American, Latino, and low-income — lack high-speed access to digital learning opportunities. They are becoming experts at using Snapchat and Instagram, but they are not capable of creating the next social media platforms that will change the world. My.Future will provide millions of young people a chance to develop their STEM skills — 24/7, 365 days a year — in an inclusive environment where they can engage in self-directed learning experiences, interact with their peers, and collaborate with one another, whether they are in Germany, Ohio, Mississippi, or California.

Q: Do you think higher education has changed substantially over the past four years?

A: In some instances, we are moving in the right direction. In others, we seem to be doing worse.

According to a recent Education Trust report, more
than two-thirds of public colleges and universities have increased graduation rates over the last decade, with those for African American and Latino students on the rise. But these improvements aren’t equal among subgroups of students, and the overall improvement masks an especially alarming trend: the widening of the graduation gap between African American and white students and the even more subtle widening of the achievement gap between African American women and men.

In terms of faculty diversity, underrepresented minority groups held approximately 13 percent of faculty jobs in 2013, up from 9 percent in 1993. Yet they still only comprise 10 percent of tenured jobs, according to a study by the TIAA Institute. Collectively, women now hold 49 percent of total faculty positions but just 38 percent of tenured jobs.

All of this suggests some progress, but not nearly the gains we want to see. From my vantage point, this is a result of not using key strategies proven to work — for example, using diversity analytics to forecast graduation rates and make tactical adjustments in advising processes, course planning, and the development of student success programs. In addition, creating faculty diversity initiatives, with a mandate to train against implicit bias, and doing faculty searches until the candidate pool is diverse, as well as considering experiences that support diverse student success in the hiring process, should all be imperatives today. This is in addition to candidates possessing scholarly acumen and teaching prowess.

In terms of the campus climate, I think we have taken a definitive turn for the worse. Several shifts have occurred that have repositioned the campus climate conversation in the last year in particular. The radical right entered the popular imagination with Donald Trump’s election, causing a ripple effect in our nation and on our campuses.

On the rise are campus climate incidents — what I refer to in my research as “cheetah moments” because they often cause campuses to create a flurry of short-term diversity commitments and initiatives with little follow-up and few long-term strategies. Support for building walls of exclusion, the bullying of LGBTQ students, attacks against the Black Lives Matter movement, the rise of Islamophobia, and the emergence of hate messages under the guise of free speech suggest that our campuses are teeming with campus climate challenges that have always existed but are now bubbling to the surface more frequently.

In response to this reality, we must be strategic diversity leaders in our approach to building supportive campus environments. That means engaging in ongoing and regular campus climate research efforts to monitor and develop strategies to improve the climate and to foster a stronger learning and work environment for our communities. On too many campuses, we don’t have credible information about the learning and work environment, or do we know the level of diversity skills or cultural competence that students and leaders possess in order to interact across differences.

Q: What will be the single biggest factor in ensuring progress?

A: I think we have to continue not just establishing chief diversity officer roles, doing campus climate studies, and writing diversity plans, but also doing these things with a real focus on changing our systems and the ways in which we work. We need to focus on becoming more evidence-based in our approach. This means investing new dollars in our initiatives and creating leadership development and learning moments for students, faculty, and staff and, most important, creating a stronger culture of accountability and incentives to drive our work in the areas of diversity, equity, and inclusion.

College campuses need to be setting real goals, building scorecards, and establishing an atmosphere of accountability. It can be frustrating for diversity planning committees to develop a wonderful new diversity plan, but no real investment goes into it, and ultimately very little change occurs. Diversity efforts must be a strategic priority of every institution. Ensuring that they are part of five-year performance reviews, budget processes, capital campaigns, academic plans, searches for new leaders, and annual and merit reviews is critical.

Finally, I think we need more partnership and collective impact initiatives that bring together the higher education, corporate, and K-12 communities.

Q: Having now stepped down from your role at BGCA, what is next for you?

A: I am building several new initiatives to strengthen the strategic diversity leadership movement. I kicked off the National Inclusive Excellence Campaign this summer with the State University of New York System; it is designed to empower the evidenced-based practice of diversity and inclusion work at 1,000 institutions, beginning with a national tour. We go live with the campaign and the tour in a national online webinar on September 13.

I am also launching my new strategy and learning center, the Center for Strategic Diversity Leadership and Social Impact, and serving as senior scholar and innovation fellow with the Wisconsin Equity and Inclusion Laboratory at the University of Wisconsin-Madison.

Finally, I am working on my new book on the centennial generation, as well as a number of new tools to empower the strategic diversity leadership community. You can visit drdamonwilliams.com to access some of the tools now.

Damon A. Williams, PhD, is an Editorial Board member for INSIGHT Into Diversity.
AT UNION COLLEGE, OUR STORY COMES FROM MANY PERSPECTIVES.

Union College in Schenectady, N.Y. is proud to have received the HEED award from INSIGHT into Diversity, the fourth consecutive year the magazine has honored the College’s commitment to diversity and inclusion.
Trump Administration Proposes Merger of EEOC and OFCCP Under Guise of Efficiency

By Shirley J. Wilcher, JD

In the Fiscal Year 2018 Congressional Budget Justification for the Office of Federal Contract Compliance Programs (OFCCP) in the U.S. Department of Labor, the Trump administration has proposed merging the OFCCP into the Equal Employment Opportunity Commission (EEOC). This proposal is not new and was reportedly considered in 1978 during the Carter administration. In 2017, however, it is more likely to succeed, given the fact that the executive branch, the House, and the Senate are controlled by the same party.

The OFCCP enforces Executive Order 11246, signed by President Lyndon B. Johnson in 1965, as well as Section 503 of the Rehabilitation Act of 1973 and Section 4212 of the Vietnam Era Veterans’ Readjustment Assistance Act of 1974. These laws require nondiscrimination and affirmative action by companies doing business with the federal government. They collectively prohibit discrimination based on race, color, religion, national origin, sex, disability, veterans’ status, gender identity, and sexual orientation. The federal contractor universe within OFCCP’s jurisdiction covers approximately one-quarter of the civilian labor force.

Merging the OFCCP and the EEOC was initially proposed in a document published by the conservative think tank The Heritage Foundation, which cited as its rationale that a merger would promote government efficiency. The White House used the same reasoning in advancing the merger in its budget justification. To facilitate the process, the administration proposed reducing the OFCCP’s budget from $104 million in 2016 to $88 million in 2018, which would effectively cut the office’s staff from 615 to 440.

According to the administration, the purpose of the budget proposal was “to promote greater policy coordination, management efficiency, and cost-effectiveness.” In line with this reasoning, the White House stated: “Consistent with the president’s direction to agencies to develop comprehensive plans to reform and reorganize, the budget proposes to lay the groundwork to merge the OFCCP into the EEOC by the end of [fiscal year] 2018,” adding that the merger would purportedly “benefit employers, workers, and the public by consolidating the oversight of federal equal employment opportunity under one roof.”

Interestingly, both employer advocates and the civil rights community have opposed the proposed merger of the two equal employment agencies. Leading the contractor community was the U.S. Chamber of Commerce and the Institute for Workplace Equality. Among the equal employment opportunity associations that oppose the proposal are the American Association for Access, Equity, and Diversity (AAAED) and the National Industry Liaison Group. The National Association of Diversity Officers in Higher Education (NADOHE) joined AAAED in releasing a statement. The Leadership Conference on Civil and Human Rights, signing on behalf of 73 organizations, led the civil rights community in strongly opposing the administration’s proposal.

In its letter in opposition to the proposal, AAAED reminded the U.S. Secretary of Labor and the director of the Office of Management and Budget of the distinctive bipartisan history of the OFCCP as a creature
of the federal contracting function. Presidential orders mandating equal employment opportunity date back to 1941, when President Franklin D. Roosevelt ordered the integration of the war industry after pressure from the Brotherhood of Sleeping Car Porters, an African American labor organization. During the Eisenhower administration, Vice President Richard M. Nixon chaired the President’s Committee on Government Contracts and penned this memorable passage:

Overt discrimination, in the sense that an employer actually refuses to hire solely because of race, religion, color, or national origin, is not as prevalent as is generally believed. To a greater degree, the indifference of employers to establishing a positive policy of nondiscrimination binders qualified applicants and employees from being hired and promoted on the basis of equality.

Nixon’s positive policy of non-discrimination became President John F. Kennedy’s affirmative action program when Kennedy incorporated the concept into Executive Order 10925 in 1961. Later that year, federal contractors voluntarily joined Kennedy’s “Plans for Progress,” which called for “continuous, systematic, and vigorous action to open new job opportunities to members of minority groups.” In 1963, under Johnson, 115 companies and institutions of higher education were participating in the plans.

Johnson signed Executive Order 11246 in 1965, and in 1967, women were added as a protected group. In 2014, President Barack Obama amended the executive order to include gender identity and sexual orientation.

Unlike the EEOC, which was created by the Civil Rights Act of 1964 as a semi-independent agency, the OFCCP is an integral part of the federal contracting community. Companies — including institutions of higher education — that provide supplies and services, or that perform construction services in an amount designated by the federal government, must comply with the Equal Opportunity clause in each contract. To enforce this clause, the OFCCP conducts compliance evaluations and reviews of contractors, desk audits, pre-award reviews, and other actions to monitor compliance. The ultimate sanction is debarment. If debarred, a contractor is prohibited from receiving additional federal contracts unless the company is reinstated as a contractor after agreeing to terms to become compliant. Debarment is an extreme and expensive sanction and is not often imposed. Annually, the federal government awards approximately $400 billion in federal contracts, so losing one through debarment can be expensive.

Unlike the EEOC, through which a complainant often receives a Right to Sue Letter and may proceed to federal court to seek redress, the victim of discrimination under an OFCCP review has no personal right to sue. He or she may receive “make-whole” relief if the OFCCP finds that the contractor has discriminated against that person by failing to hire or promote him or her based on race, gender, or another prohibited basis. Such relief restores the person to his or her employment status prior to the discriminatory act. Additional relief may include back pay with interest, accrued pension benefits, or other forms of compensation.

The OFCCP represents the interests of the government in its awarding and administration of contracts. More significantly, its focus is systemic, and it reviews a contractor for patterns and practices of discrimination, as well as its efforts to promote equal employment opportunity. The EEOC, on the other hand, is primarily complaint driven and relies on charges to be filed to trigger enforcement actions.

The AAAED and other organizations have argued that merging the EEOC and the OFCCP is far from a simple matter and is the “antithesis of efficiency.” Their fundamental purposes are different, as are their administrative enforcement processes.

Shirley J. Wilcher, JD, CAAP, is the executive director of the American Association for Access, Equity, and Diversity. She served as director of the OFCCP from 1994 to 2001. Wilcher is also a member of the INSIGHT Into Diversity Editorial Board. The AAAED is a partner of INSIGHT Into Diversity.
Research Universities Empower Diverse Students, Faculty to Engage in Scholarship

By Mariah Bohanon

By fostering communities of diverse scholars, research institutions are able to produce innovative ideas and solutions informed by a variety of identities and perspectives. Recognizing the societal benefits of engaging and supporting underrepresented and marginalized groups in these endeavors, colleges and universities are becoming more equitable and inclusive.

The following research universities stand out for their efforts to encourage and empower underrepresented students and faculty to contribute to the ideas, discoveries, and inventions that shape our world.

Ball State University

Ball State University (BSU) in Muncie, Ind., takes a proactive approach when it comes to helping scholars conduct diversity-focused research. The university’s Office of Institutional Diversity (OID) provides funding, mentors, and peer support groups to encourage the study of issues related to equity and social justice. The OID’s Diversity Associates Program, for example, supports up to 20 faculty members annually in their efforts to conduct research, develop pedagogy, and create campus programming that promotes diversity awareness.

“Our Diversity Associates Program is so successful because it brings people together to work across different disciplines and experience levels,” says Melinda Messineo, PhD, interim director of the OID and interim associate provost for diversity. “It’s a great example of a faculty learning community being effective across different colleges and departments.”

To be selected for the program, faculty members must submit a proposal for a campus event, curriculum redesign, or research project related to the study of different identities, which includes race and ethnicity, sexual identities, and socioeconomic disparities. Those accepted into the program are awarded funding and appointed a senior faculty mentor who provides expertise and guidance. The associates also regularly meet as a group throughout the academic year to offer each other assistance, feedback, and support on projects.

Messineo says the program was originally created because a number of BSU professors’ research interests aligned with the university’s mission around equity and inclusion. “[Without a formal platform to support this scholarship,] there was some concern that if you were doing research related to diversity, it might not be considered an appropriate pursuit if that wasn’t your primary area of research,” she says. “But diversity can be a relevant topic across many different fields, so the purpose of the Diversity Associates Program is to acknowledge that such scholarship is very important to us as a university.”

In its 20 years, the program has given rise to a substantial body of scholarly work on topics such as mental health support for minority students and Universal Design for Learning in the classroom. “We talk a lot about the concept of [UDL] and inclusive pedagogy on our campus, and those philosophies inform a great deal of how we think about our work and what we’re trying to do as we move forward,” says Messineo.

Beyond assisting faculty members in their scholarly pursuits, the OID seeks to empower the next generation of scholars.
The BSU PhD Pathways Program enrolls roughly 70 high-performing undergraduate students annually from underrepresented backgrounds who have expressed an interest in pursuing post-baccalaureate education. “This is one of the ways we try to increase the pipeline of underrepresented students going into academia,” Messineo says. “It started in our communications college and was so successful that [we expanded it] across campus.”

Participants are assigned to an employee, alumnus, or community member mentor with whom they meet regularly, and the OID hosts events for the students throughout the year focused on topics such as stress reduction, professional networking, and ways to obtain research funding.

These programs are just one way BSU strives to go the extra mile to foster a community of diverse thinkers, says Messineo. “We always want to be moving toward more inclusion, toward greater representation,” she says, “because that’s how we know our campus is headed in the right direction.”

The BSU PhD Pathways Program is especially committed to the representation of female scholars and innovators in tech and other STEM disciplines. In 1995, the school created the Women, Science, and Technology (WST) minor — the first academic program in the U.S. focused specifically on understanding the interplay of “issues in the study of science and technology with those of gender, culture, and society,” according to the university’s website. Following the creation of the minor, the university established the WST Center to oversee the program and other academic endeavors focused on increasing gender equity in STEM.

“The center was started as a way to promote the interest of and persistence of women in STEM,” says Ervin, “because we as a tech-focused institution have struggled historically with acquiring gender balance in student enrollment.”

One of the center’s longest-running and most successful programs is the WST Living Learning Community, a cohort of roughly 50 female undergraduates who are able to assist faculty with and even lead research projects related to the study of women in STEM. The mission of the program is to provide participating students with a strong foundation of academic and social support and to increase the visibility of female role models on campus, Ervin says.

“Creating this community ensures that our female students see other women who are successful role models in STEM disciplines, where women aren’t very visible in many cases,” he says. “By providing this support system of mentors and peers who nurture students’ interests, we are actually increasing the number of women who successfully matriculate and complete STEM degrees.”

According to Ervin, more than 1,200 women have participated in the WST Living Learning Community since it began in 2000. In that time, Georgia Tech has become the foremost school for women earning undergraduate engineering degrees in the U.S., as well as a leading source of research and best practices for supporting women and girls in STEM. Ervin attributes these accomplishments to the success of the living learning community and other...
programs overseen by the WST Center. “We spend a lot of energy on advancing and leveraging the talents and capacity of all of our people here at Georgia Tech, and that includes gender equity,” he says. “We’ve seen the results of these efforts over the years, and they continue to bear fruit in that we are producing female graduates who are making significant contributions to our world and society.”

**Northeastern University**

A leading research institution, Northeastern University (NU) is located in the heart of Boston, within minutes of the city’s many other research-intensive schools. As such, NU’s Office of Institutional Diversity and Inclusion (OIDI) values programming, scholarship, and learning opportunities that benefit the region’s entire academic community, says John Armendariz, PhD, vice provost for institutional diversity and inclusion.

“We’ve worked very hard to build collaboration and broaden the impact of the work that we do,” he says. OIDI, Armendariz adds, partners with and provides funding for NU employees and students to lead projects that are sustainable and interdisciplinary and that will provide new insights and support to scholars and students across the Greater Boston area.

In March, OIDI worked with faculty members from the university’s English and linguistics departments as well as the law school to host a conference titled The Syntax of Justice: Law, Language, Access, and Exclusion, which examined “how language plays a role in discrepancies in the outcomes of the law that disproportionately affect minority communities,” Armendariz says. The conference featured law and language scholars from not only NU, but also Harvard University, Massachusetts Institute of Technology, and other area institutions.

“What we’re really looking for is [collaboration] across diverse groups, and this was one thing that allowed us to show our commitment to supporting those partnerships and to having those conversations around issues that matter to the broader community,” says Armendariz.

Similarly, at the suggestion of NU faculty, OIDI hosted another conference in the spring that welcomed members of the surrounding academic community — specifically, women of color. “Two of our professors came forward with an idea for faculty who are women of color to come together to address some of the obstacles to their success,” Armendariz says, “whether that means getting a permanent tenure-track position or going into administration.”

During the planning process, the idea for the event gained so much attention that it quickly became a campus-wide project and eventually expanded to other area institutions, he explains. “It was such a simple idea, and given that Boston is an epicenter of higher education, we realized that other schools might have small pockets of underrepresented women who don’t have the resources or the numbers to build a network on campus,” Armendariz says. “We ended up working with other local institutions like Harvard, Tufts University, and Boston University, and it’s been so successful that it will occur again next year.”

Titled Women of Color in the Academy: Strategies for Career Advancement – The Time is Now, the conference provided action-oriented information for underrepresented women across all academic disciplines, professional tracks, and experience levels to take charge of their careers. The concept aligns with OIDI’s overall mission to achieve academic excellence through inclusion — which NU does on its own campus and across the region’s academic community.

Armendariz believes NU will continue to serve as an example for other institutions to work together for the benefit of all students and scholars. “One thing I hope that comes out of our efforts,” he says, “is how universities can better collaborate to support diversity — not just on one campus, but on many.”

Mariah Bohanon is a senior staff writer for *INSIGHT Into Diversity*. Ball State University is a 2016 HEED Award recipient. The Georgia Institute of Technology is a 2014-2016 HEED Award recipient. Northeastern University is a 2016 HEED Award recipient.
‘Let me be clear that I am fully committed to excellence and diversity as being mutually reinforcing, and we will look to new processes to advance both.”

President Gregory L. Fenves
ENGINEERING SCHOOL DEANS

Each month, *INSIGHT Into Diversity* features diverse professionals in higher education. To be featured in this section in an upcoming issue, email your bio and photo to editor@insightintodiversity.com.

Mung Chiang, PhD, is dean of the John A. Edwardson College of Engineering and the Roscoe H. George Professor of Electrical and Computer Engineering at Purdue University. Prior to this position, he served in multiple roles at Princeton University: inaugural chairman for the Entrepreneurship Council, director of the Keller Center for Innovation in Engineering Education, and founding director of the EDGE Lab. His numerous recognitions include the National Science Foundation Alan T. Waterman Award, a Guggenheim Fellowship, the Institute of Electrical and Electronics Engineers Kiyo Tomiyasu Award, the American Society for Engineering Education Frederick E. Terman Award, and a Presidential Early Career Award for Scientists and Engineers.

Darryll J. Pines, PhD, is dean of the A. James Clark School of Engineering and the Nariman Farvardin Professor of Aerospace Engineering at the University of Maryland, College Park. Since 1996, Pines has been director of the Alfred P. Sloan Foundation’s Sloan Scholars Program and, from 2003 to 2006, served as program manager for the Tactical Technology Office and Defense Sciences Office at the Defense Advanced Research Projects Agency (DARPA). While at DARPA, he initiated five programs related to the development of aerospace technologies, for which he received a Distinguished Service Medal. Pines currently serves on the Executive and Advisory Board for Engineers Without Borders, as well as the National GEM Consortium.

Alec D. Gallimore, PhD, is the Robert J. Vlasic Dean of Engineering, an Arthur F. Thurnau professor, and the Richard F. and Eleanor A. Towner Professor of Engineering at the University of Michigan. Also serving as director of the Plasmadynamics and Electric Propulsion Laboratory, he specializes in plasma diagnostics, space/re-entry plasma simulation, nanoparticle physics, and the utilization of plasma for energy production and environmental remediation. He has been the recipient of numerous awards, such as the Trudy Huebner Service Excellence Award, the Harold R. Johnson Diversity Service Award, the Outstanding Accomplishment Award in Aerospace Engineering, and the Outstanding Achievement in Academia Award from the National GEM Consortium.

S. Shankar Sastry, PhD, is dean of the College of Engineering, director of the Richard C. Blum Center for Developing Economies, and a professor at the University of California, Berkeley. Prior to his current roles, he was a professor at Massachusetts Institute of Technology and director of the Center for Information Technology Research in the Interest of Society. Sastry has devoted decades to technology research, launching projects to improve the nation’s cybersecurity and network infrastructure. He has been recognized with the National Science Foundation Presidential Young Investigator Award, the American Automatic Control Council’s Donald P. Eckman Award, the President of India Gold Medal Award, and an honorary degree from Harvard.

Sharon L. Wood, PhD, is dean of the Cockrell School of Engineering and the Cockrell Family Chair in Engineering at The University of Texas at Austin. She most recently served for five years as chair of the school’s Department of Civil, Architectural, and Environmental Engineering. Wood is a member of the National Academy of Engineering and past president of the American Concrete Institute. She has been nationally recognized for her work on the earthquake response of reinforced structures. She previously served on the federal advisory committees for the U.S. Department of Veterans Affairs, the National Earthquake Hazards Reduction Program, and the U.S. Geological Society.

Mary C. Boyce, PhD, is dean of The Fu Foundation School of Engineering and Applied Sciences and the Morris A. and Alma Schapiro Professor of Engineering at Columbia University in the City of New York. She previously served for 25 years on the faculty at Massachusetts Institute of Technology, where she led the Department of Mechanical Engineering from 2008 to 2013. Boyce’s research has concentrated on materials and mechanics, and her leadership in these areas has led to innovative hybrid material designs. She has been widely recognized for her scholarly work and has been elected to serve on several national organizations: the American Society of Mechanical Engineers, the American Academy of Arts and Sciences, and the National Academy of Engineering.
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University of Virginia Serves the Community Through Engagement and Opportunity

By Alexandra Vollman

Diversity Champions exemplify an unyielding commitment to diversity and inclusion throughout their campus communities, across academic programs, and at the highest administrative levels. INSIGHT Into Diversity selected institutions that rank in the top tier of Higher Education Excellence in Diversity (HEED) Award recipients.

Founded by Thomas Jefferson in 1819, the University of Virginia (UVA) in Charlottesville has been a pillar of the local community for nearly 200 years. As such, the flagship university has a history of engaging and involving all members of both the UVA and surrounding community in its efforts around diversity, equity, and inclusion.

“As a small unit at the University of Virginia reporting directly to the president, the Office for Diversity and Equity’s goal is to promote an inclusive, welcoming, and respectful environment. To do so, we collaborate with UVA student groups, alumni, faculty, and various individuals and community organizations to promote inclusivity and an appreciation for diversity,” says Marcus Martin, MD, vice president and chief diversity officer for diversity and equity and a professor of emergency medicine at the UVA School of Medicine.

Acknowledging Historical Inequities

Despite its role as a cornerstone of the community, UVA — like many institutions — hasn’t been without its shortcomings. However, recognizing not only its history as the brainchild of a slaveholder but also a university born of the Antebellum South, UVA has undertaken an expansive project to address the racial inequities that have plagued its past to improve its relationships in the present.

The President’s Commission on Slavery and the University (PCSU) is an effort by UVA to examine and acknowledge its relationship with slavery and the enslaved people who worked there between 1817 and 1865. Spearheaded by Martin, the commission was officially established by UVA President Teresa A. Sullivan in the fall of 2013 to “explore and report on the [university’s] historical relationship with slavery” and “provide advice and recommendations to the president” on ways to commemorate this relationship, according to the PCSU website.

Meghan Faulkner, assistant to the vice president and chief officer for diversity and equity for programs
and projects, helps oversee the commission. She believes it is critical for UVA to engage members of the community — particularly African Americans — in its effort to address its complicated history.

“It is incredibly important to make sure that those who may not be formally connected with the university but who may have lived in the community for years … have a say in what we should be doing,” Faulkner says. “One of the reasons behind UVA opening up about and presenting this ugly but truthful part of its past is to demonstrate that the university intends to be truthful about its history.”

As one of its larger projects, PCSU developed a walking tour map of the campus featuring historically significant places that showcase “how physically embedded slavery was in the university’s operations,” says Faulkner. The self-guided “Enslaved African Americans at the University of Virginia Walking Tour” introduces people to some of the sites constructed or operated by enslaved laborers and the stories of those individuals, demonstrating how integral they were to the university’s founding and operation.

In 2019, a new site will be added to the map: the Memorial to Enslaved Laborers, which will feature some of the names of these individuals. Armed with feedback from students, faculty, staff, and the community, design firm Höweler + Yoon created a plan for the memorial, which UVA’s Board of Visitors approved in June. “Now we’re in the process of fundraising $6 million to get the memorial constructed,” Martin says. “It’s been a long-desired goal of the university and community to have such a memorial, and ultimately, it will be more than just a visible towering wall — it will be a place where people can gather.”

A large part of PCSU’s work has focused on research, Faulkner says, as little was known about the enslaved population at UVA prior to the commission’s founding. The Cornerstone Summer Institute, now in its second year, maintains this emphasis by providing opportunities for high school sophomores, juniors, and seniors to explore the university’s legacy of slavery via historical investigation, archaeological excavation, and community engagement. During this weeklong experience, students live in dorms and explore the campus’s early history together while building skills for college.

Another aspect of PCSU’s research, Universities Studying Slavery (USS) is a collaboration between UVA and 26 other colleges and universities in the region, which is led by UVA. USS is part of a larger effort by educational institutions to “address both historical and contemporary issues dealing with race and inequality in higher education and in university communities, as well as the complicated legacies of slavery in modern American Society,” according to the PCSU website.
“They meet twice a year and share findings, ideas, and advice with one another,” says Faulkner. “It can be extremely beneficial for universities to learn from each other in terms of what has worked so that everyone’s not starting from square one.”

While efforts to commemorate and atone for one’s past are increasingly recognized as important in today’s higher education landscape, UVA’s is unique in its collaborative and community-centric approach. “I think that the issue itself is a community issue,” Faulkner says. “It’s impossible to separate what was going on at the university from what was going on in the community — it was all connected.”

Providing Academic and Social Support

UVAs commitment to community also translates to ensuring that all students are provided the support they need to succeed. The Office for African-American Affairs (OAAA), for example, serves as a conduit for black students seeking resources and academic support services. One of OAAA’s initiatives, the Peer Advisor Program (PAP), addresses all of these areas and more for incoming students.

Established in 1984 in response to a need expressed by black students — who reported feeling isolated on campus — PAP’s mission is to provide these individuals with a caring, supportive environment; promote academic excellence; inform them of the services and resources available at UVA; encourage their involvement on campus; foster university pride; and increase retention, according to the OAAA website. To do this, all African American first-year freshmen and transfer students are assigned an upperclassmen adviser who serves as a resource for new students throughout their first academic year.

Advisers connect with students during the summer before their first semester to offer pre-college advice, and they continue to meet individually with them throughout the year — as well as plan group activities for all new students — to help ease their transition to both the academic and social aspects of college life. “It’s helpful for [incoming students] to know there’s somebody who is already here who they can reach out to,” says Kimberley Bassett, PhD, PAP director and associate dean of OAAA.

Although OAAA designed PAP with incoming students in mind, Bassett says the benefits of the program go both ways. Peer advisers — most of whom are also African American — gain not only valuable mentoring experience, but also leadership development and communication skills. They are required to attend training in the summer, a mid-year retreat in the spring, and monthly meetings, where Bassett says they develop listening skills, learn how to provide personal and academic advice, and recognize when a student needs to be referred to a counselor or therapist.

“We always spend some time discussing tricky situations and how they might navigate them. They also get training around their own time management and identity development,” says Bassett, adding that being a peer adviser requires a serious commitment. “They have to have a willingness to really be engaged in the lives of incoming students. They have to be willing to sacrifice their time and also be passionate about helping [others].”

Now a longstanding initiative at UVA, PAP has contributed to students’ academic success as well as helped them form lifelong relationships; Bassett says she can recount numerous times that participants have told her they met their best friend through the program. While the OAAA is just now beginning to collect hard data on PAP’s impact, Bassett believes its positive effects are apparent in other ways: For decades, UVA has had the highest graduation rate for African Americans of any public college or university in the U.S.

“I would never say that PAP is the sole reason [for this success], but I do believe it is absolutely a contributing factor,” says Bassett. “I talk to students every single year who say they thought about leaving UVA but stayed because of a conversation they had with their peer adviser.”

Increasing Minority Representation in STEM

Overseeing the Virginia–North Carolina (VA-NC) Alliance for Minority Participation, part of the national Louis Stokes Alliance for Minority Participation program, UVA serves as a leader in the local higher education community. The VA-NC Alliance is composed of 12 schools — including predominantly white institutions, historically black colleges and universities
(HBCUs), and one community college — all focused on increasing the number of underrepresented minorities earning degrees in the fields of science, technology, engineering, and math (STEM).

Kristin Morgan, director of university and community relations and development at UVA, oversees the program at the university, while Martin serves as principal investigator. The project has been funded by the National Science Foundation since 2007. While each partner institution develops its own individualized recruitment, retention, and enhancement activities, the alliance’s purpose is to provide a forum for schools to share not only what’s working on their campuses, but also resources.

“Public schools have been strained by states cutting funding for higher education for a while now, and HBCUs have been struggling financially as well and have had dips in enrollment,” Morgan says. “So leveraging our resources to provide more opportunity is essential.”

As part of this effort, every year UVA hosts the Summer Research Program for undergraduate students from alliance member institutions majoring in a STEM discipline who plan to pursue a PhD in one of those fields. For eight weeks, participants live on UVA’s campus and report every day to their assigned lab, where they work under the guidance of a faculty or graduate student mentor on a research project in one of eight tracks: astronomy, biology, chemistry, computer science, engineering, environmental science, neuroscience, or physics. In addition to free housing, students receive a $4,000 stipend and a $200 meal allowance.

With its emphasis on the pursuit of advanced STEM degrees, Morgan says the program also offers participants graduate school preparation and professional development opportunities, including writing workshops. “We also offer social activities — field trips, cookouts, ice cream socials — to help cultivate [their] sense of belonging on campus in addition to developing that science identity through their research,” she adds.

At the end of the experience, students are required to present their research, first on campus, and then to a larger audience at the National Leadership Alliance Symposium. Morgan believes this helps prepare them for graduate school and beyond. “Conducting research and presenting their results … also increases their sense of self-efficacy and starts to develop their identity as a scientist,” she says. “In addition, by explaining their research projects and methods, students develop a stronger grasp of the material and learn how to communicate their results to a lay audience — an essential skill for scientists.”

UVA usually selects 10 people each year for the program, and 69 have participated since its inception — some of whom have made significant scientific findings. One such instance involved the discovery of a new interstellar molecule, which Morgan says “had major implications for astrochemistry research.”

In addition, the alliance hosts the Annual VA-NC Undergraduate Research Symposium, which provides additional opportunities for students to conduct presentations. UVA also facilitates transition workshops to assist its partners with understanding how to improve the transfer process for community college students.

The extraordinary success of the VA-NC Alliance, and of UVA’s efforts specifically, is evidenced not just by the fact that NSF recently awarded the initiative another five-year $5 million grant — allowing UVA to welcome three additional institutions to the partnership — but also by hard numbers. During the first and second five-year phases of the project combined, the number of underrepresented minority students graduating from alliance institutions with STEM degrees increased by 156 percent. At UVA alone, this figure was 109 percent.

Martin believes that UVA has been able to make a positive difference in the lives of its students, faculty, staff, and members of the local community — as well as the commonwealth broadly — due in large part to its inclusive approach to engagement. “This work is so successful because of the people who are involved in these efforts,” he says. “Having input from a wide variety of people is important.”

Alexandra Vollman is the editor of INSIGHT Into Diversity. The University of Virginia is a 2012-2016 INSIGHT Into Diversity HEED Award recipient.
The STEM Outlook

**EDUCATION, OCCUPATIONS, AND SALARY**

In 2014, 61.5% of all bachelor's degrees in science and engineering were awarded to whites. Conversely, only 0.3%, 0.5%, 8.7%, and 12.1% were awarded to Native Hawaiians or Pacific Islanders, American Indians or Alaska Natives, African Americans, and Hispanics, respectively.

Only 0.3%, 0.5%, 10.3%, and 10.3% of all bachelor's degrees in computer sciences in 2014 were awarded to Native Hawaiians or Pacific Islanders, American Indians or Alaska Natives, Hispanics, and African Americans, respectively.

Just 0.2%, 0.3%, 5.2%, and 9% of all bachelor's degrees in mathematics and statistics in 2014 were awarded to Native Hawaiians or Pacific Islanders, American Indians or Alaska Natives, African Americans, and Hispanics, respectively.

The U.S. Bureau of Labor Statistics has projected that between 2014 and 2024, all three broad categories of STEM jobs will see slowdowns in growth as compared with its previous projections. Computer and math professions are projected to grow 13.1% — a sharp drop from the 22.2% growth projected in 2008. Architecture and engineering occupations are expected to increase 2.7% instead of 10.3%, and physical and life sciences professions are expected to grow 7.4% as opposed to 19%.

Employment in computer professions is projected to increase by 12.5% between 2014 and 2024, resulting in nearly **HALF A MILLION NEW JOBS** — far more than any other STEM job category.

Some attribute the difference in unemployment rates between STEM and non-STEM professions to differences in educational attainment. Nearly three-quarters of STEM workers have **AT LEAST A COLLEGE DEGREE**, compared with just over one-third of non-STEM workers.

The largest number of STEM degrees awarded are in the **PHYSICAL AND LIFE SCIENCES**, which account for 40%. Engineering degrees follow with 38%, while computer and math degrees make up the remaining 22%. Among the four STEM occupational groups, the physical and life sciences have the highest-educated workforce, with more than 40% of workers holding a graduate degree.

The STEM unemployment rate is **2.5%**, while the rate for all U.S. jobs is **4.7%**.
In 2015, African Americans made up 6.1% of the life, physical, and social sciences workforce and 6% of architecture and engineering occupations. Hispanics comprised 8.2% of the architecture and engineering workforce and 7% of life, physical, and social scientist positions.

Sources: Department for Professional Employees, AFL-CIO; National Science Foundation; U.S. Bureau of Labor Statistics; U.S. Department of Commerce and Economics and Statistics Administration Office of the Chief Economist
Innovation in science, technology, engineering, and math (STEM) — both in academia and biotechnology — have had a positive effect on society at the regional, national, and global levels. Research has shown that diversity among top leaders and problem-solvers is critical to fostering creativity and innovation in STEM. These efforts must involve welcoming and including women and those from underrepresented populations into the STEM workforce.

Jo Handelsman, PhD, the associate director for science in the White House Office of Science and Technology Policy, made clear the imperative to diversify the STEM workforce under the Obama administration. “STEM innovation is key to America’s future,” she said. “We must draw on talent from every part of our society and capitalize on the extraordinary diversity of thought that comes with diversity of people.”

Diversity at all stages of the STEM pipeline is critical for increasing the number of people participating in innovative problem-solving in both academic and applied research in biotechnology, as diversity and inclusion lead to improved creativity and innovation — a concept that is supported by research from Lu Hong and Scott E. Page. Through their research on problem-solving agents, published by the Proceedings of the National Academy of Sciences of the United States of America, they demonstrated that a diverse team was able to outperform a homogeneous team of “high-ability” problem-solvers. The “relatively greater ability [of top problem-solvers] is more than offset by their lack of problem-solving diversity,” they explained. In other words, people from diverse backgrounds with diverse experiences will approach problems differently, and as a result, may devise more creative solutions.
and groundbreaking solutions.

A lack of diversity in the scientific workforce is concerning, as it implies that considerable talent is being left out of the innovation enterprise. Recently, there has been a national call to action to reclaim America’s role as a global leader in science and technology. According to Handelsman, “Systemic barriers, such as implicit and explicit bias, present challenges to efforts to draw upon a diverse community in building a STEM workforce for the 21st century.”

More collaboration is needed to eliminate such barriers and to drive positive system transformation with evidence-based policies and practices. We must convene leaders, experts, and chief diversity officers from industry, academia, professional societies, and the government to not only discuss ways to reframe the national conversation on STEM-workforce diversity, but to also close the gap and grow the talent pool.

**Encouraging Best Practices**

Earlier this year, Salem State University in Massachusetts hosted a forum called A Stakeholders Roundtable that focused on excellence and innovation through diversity in the STEM workforce, which included discussions on models for communicating about diversity to the public in ways that reinforce diversity as an asset rather than a challenge. Participants included STEM employers and prospective members of the STEM workforce who shared lessons learned and best practices for ensuring an inclusive working environment, reducing implicit bias in the workplace, and retaining and advancing a diverse STEM workforce.

The event also featured presentations by students from the Youth Development Organization (YDO) in Lawrence, Mass., a nonprofit entrepreneurial organization that recruits underserved students while seeking partnerships, developing training concepts, and implementing comprehensive STEM programs. YDO allows high-achieving local middle and high school students to work in basic sciences laboratories year-round. This type of programming helps give students who have expressed a desire to pursue STEM careers the opportunity to do so.

Notably, Antonia Novello, MD — who served as the 14th U.S. Surgeon General and was the first woman and the first Hispanic ever to hold this position — spoke at the event. In her closing remarks, she stated, “By implementing a unique training paradigm based on an early-start model, a longitudinal training continuum, and a multi-institutional mentorship approach, we can refocus the landscape for entrepreneurship and innovation.”

Encouraging participation in STEM is certainly the first step to increasing diversity in these fields. At the K-12 level, best practices include providing near-peer mentors, role models who are similar in background to the students they are encouraging, and early and sustained opportunities to explore science through authentic research experiences. An example of a program that incorporates these best practices is the soon-to-launch Salem State STEM Opportunities Academy, which will focus on middle school girls from underrepresented minorities in the surrounding community. Female undergraduate STEM majors at Salem State will serve as tutors and mentors, while faculty and staff will serve as role models. Participants will work in teams and use the scientific method to answer questions from a variety of different STEM fields.

Additionally, the academy will provide opportunities for young people to explore different careers in STEM. Many of the participants will be first-generation college students, so positions, 86 percent have no women of color in senior management, 94 percent have none on their board of directors, 97 percent have none on their scientific advisory boards, and not one firm has any black or Hispanic women as CEOs or black women on their board of directors. Whereas women make up 47 percent of the overall workforce, they comprise only 39 percent of the STEM-educated workforce, and only 27 percent end up in a STEM career, according to national data. This leaves a large percentage of potential STEM talent out of the innovation enterprise.

Recent data also suggest that companies with more women in leadership positions often employ better practices and operate more efficiently, thus an economic case can be made for diversity. A 2014 survey by McKinsey & Company found that companies that maintain the strongest gender balance in leadership roles were more likely to report financial returns above their

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The University at Albany congratulates
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national industry median.

Cherie Butts, PhD, associate
director of program leadership at
Biogen Inc., emphasizes the impact of
diversity on innovation in the
scientific community. “It is
our differences and richness in
perspectives that will lead to a
more comprehensive approach
to addressing the most complex
scientific questions,” she says.
“We should take advantage
of any opportunity to stand
up and stand out. And if we
get this right, scientific understanding
and the scientific community will be
immensely prosperous.”

Butts believes diversity is especially
important in the development of
medications. Including all populations
in this process, she says, will lead to
more innovation and better treatments.
“Given the uncertainty of healthcare
in the U.S., it is time for a disruptive
approach to drug development. We
must be more deliberate,” Butts says.
“We need to bring together individuals
with different experiences and
perspectives — especially those
in communities impacted by
diseases of interest and who
have difficulty accessing quality
care — and scientists and
clinicians [who are] developing
novel drugs. This will ensure
a forward-thinking approach
to drug development that
considers not only how a drug
alleviates symptoms, but also how it will
be made available to patients, including
special attention paid to cost in order to
eliminate health disparities.”

According to Kenneth Gibbs, PhD,
a Cancer Prevention Fellow at the
National Cancer Institute, increasing
the diversity of women and minorities in
STEM “leads to better problem-solving,
expands the talent pool, and is important
for long-term economic growth.”

Perhaps moving away from diversity in
STEM as a social imperative — even
though it is one — and focusing on
the financial and economic case for
diversifying these professions might
strengthen the argument.

Ultimately, we must start early to
continue to build a large and diverse
pipeline of STEM students who
are trained to work effectively and
collaboratively. We must provide them
with information about the range of
STEM careers in order to end up with a
diverse table of decision-makers that will
lead to increased creativity and innovation.
That may be the table that finds the cure
for a disease that changes the world.

Lisa McBride, PhD, is the vice
president for diversity and inclusion
at Salem State University. She is
also a member of the INSIGHT Into
Diversity Editorial Board.
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Institutions Leverage Grants to Close the Diversity Gap in STEM Education, Employment

By Kelley R. Taylor

In the last decade, the fields of science, technology, engineering, and math (STEM), along with their related industries and knowledge-based products and services, have become a bedrock of economic growth, job prosperity, everyday interaction, and innovation.

According to the Office of the Chief Economist, “Employment in STEM occupations grew much faster than employment in non-STEM occupations over the last 10 years” — approximately 24 percent versus 4 percent. Additionally, the U.S. Department of Labor reports that on average, the salaries for STEM jobs are nearly double those for all other occupations. And notably, by next year, 92 percent of these important and lucrative STEM positions will require individuals to have at least some postsecondary education and training, according to the Center on Education and the Workforce at Georgetown University.

Meanwhile, the U.S. population is becoming increasingly diverse, with people of color projected to make up the majority of the working class by 2032, according to the Economic Policy Institute. Despite this trend, a striking lack of diversity persists in STEM education and employment. Indeed, a report from Change the Equation found that the STEM workforce was no more diverse in 2015 than it was in 2001, and data from the National Science Foundation (NSF) indicate that white and Asian men hold 84 percent of STEM jobs.

John Tillotson, PhD, a professor and chair of the Department of Science Teaching at Syracuse University (SU), echoes this issue in the higher education context. “Numerous studies suggest that while women and minorities constitute nearly 70 percent of all undergraduate students in the U.S., this ‘underrepresented majority’ is still [lacking] among the 45 percent of undergraduates earning degrees in STEM fields,” he says.

These numbers illustrate a dilemma in part because, as the Center for American Progress reports, “a diverse workplace can capture a greater share of the consumer market, and recruiting from a diverse pool of candidates translates to a more qualified workforce” — a sentiment with which Tillotson agrees.

“All professional fields, STEM included, stand to benefit from the diversity of ideas, perspectives, and approaches that people from different cultural, ethnic, and racial backgrounds bring to the workforce,” he says.

István Urcuyo, PhD, associate professor of Biology at Gettysburg College in Pennsylvania, says that similar benefits exist in scientific research. “A number of … studies indicate that collaborative science teams composed of [diverse] individuals are more successful in attracting funding, accomplishing research goals, and publishing and making their research more digestible for the general public,” he says.

Urcuyo recognizes that the underlying reasons for the lack of diversity in STEM are varied and complex. He points to the current underfunded public education system and the “crushing financial difficulty faced by many underrepresented and first-generation students contemplating higher education.”

“Many of these potential STEM majors deal with economic, social, and family pressures — such as student loan debt, pressure to pursue a more immediate job venue after high school due to financial needs, higher dropout rates, and discrimination,” says Urcuyo. “[These issues often] cause them to doubt their academic science abilities and to sometimes look for other job prospects even if their personal interests and passions are in STEM.”

Tillotson believes other factors may also be to blame for some groups’ low numbers in STEM programs. “[Some] women and underrepresented minority students … cite didactic teaching methods used in large introductory STEM lecture courses as being uninspiring,” he says. Additionally, many underrepresented students report difficulty adjusting to the culture in university STEM departments, where they don’t often interact with professors from diverse backgrounds, explains Tillotson.

Furthermore, in many cases, “underrepresented minority students
Similar to SUSTAIN, Gettysburg College’s STEM Scholars Program is funded by a sizeable grant from NSF. The mission of the program, which Urcuyo directs, is to recruit and retain underrepresented minority and first-generation students in STEM.

In addition to providing significant financial support — each student receives a scholarship of $10,000 per year for each of the first two academic years — the program relies heavily on close faculty-student interactions, both inside and outside of the classroom, and common experiences during the initial fall and spring semesters,” explains Urcuyo. It offers individualized outreach during the recruitment process, support from community-based organizations, STEM pre-orientation workshops, bimonthly luncheons, and other activities, as well as common housing where STEM scholars to reside together.

“Our goal is to retain and graduate at least 80 percent of the STEM scholars,” says Urcuyo. “Our first cohort of 12 students arrived on campus last fall, and 91 percent of these students have [remained] in their intended STEM majors after their first year. The second cohort of 11 students will arrive on campus this fall.”

The NSF grant, Urcuyo says, is instrumental in helping the college recruit and cultivate diverse students prepared to make meaningful contributions to STEM fields. “[As a result of the grant,] the Gettysburg College STEM Scholars Program … will graduate a diverse group of students with a strong science education and the ability to thoughtfully consider the broader connections, implications, and consequences of their work,” he says.

Likewise, Tillotson touts the positive results of leveraging these NSF grants in key areas of need. “We have used these grants [to attract] a pool of highly accomplished, low-income, and underrepresented students — females, African Americans, Hispanics, Native Americans, people with disabilities, first-generation college students, and veterans — who are majoring in biology, chemistry, neuroscience, forensic sciences, and biochemistry,” he says.

Regarding the path forward, Urcuyo believes that higher education — and the nation as a whole — needs to develop a personalized approach to STEM recruitment that acknowledges and addresses the barriers faced by students from underrepresented populations.

“[Colleges and universities] must reach out to first-generation and underrepresented groups — and they must do so in ways that both recognize and understand their personal realities and that address their expectations and needs [via] a tailored approach,” he says. “One of our nation’s goals must be to have a science-trained workforce that is representative of the diversity and cultural richness of the country as a whole.”

Kelley R. Taylor is a contributing writer for INSIGHT Into Diversity.
INSIGHT Into Diversity is proud to recognize leaders from underrepresented groups who are making a difference in the fields of science, technology, engineering, and math (STEM) with the 2017 Inspiring Leaders in STEM Award. These men and women work to motivate and encourage the next generation of young people to pursue STEM education and careers via teaching, mentoring, research, and groundbreaking discoveries and innovations. Using the challenges and triumphs they have faced as members of underrepresented groups to motivate themselves and others, they have successfully spearheaded STEM initiatives, engaged in community outreach, and made significant and lasting contributions to their fields as researchers, educators, and advocates.
At Florida A&M University–Florida State University (FAMU-FSU) College of Engineering, Shonda Bernadin, PhD, is the only African American woman in her department, where she serves as an associate professor of electrical engineering. Having had to overcome the obstacles of race and gender on her professional journey, she places great emphasis on supporting black and Hispanic female engineering students. In collaboration with other researchers, Bernadin has worked to identify factors that contribute to the success of underrepresented engineering students and to develop effective strategies to address the motivational and emotional factors affecting their academic performance. In 2014, she created the “TECH-tastic” workshop series, which includes STEM events to increase K-6 students’ awareness of STEM fields, and in 2016, she received a two-year grant from the U.S. Army to design and implement a summer program for underserved and underrepresented high school students; called AEOP (Army Education Outreach Program) UNITE, it offers information on STEM careers, academic preparation, professional development, and college- and career-readiness activities. Because of the program’s success, the Army awarded Bernadin an additional grant to create an engineering research apprenticeship program.

Thesia Berne-Anderson’s efforts to increase access to medical education and professions for underrepresented minority students has helped Florida State University (FSU) College of Medicine become one of the most diverse medical schools in the country. In her role as director of Undergraduate Outreach and Pre-College Programs, she oversees several successful pipeline programs that she created, including Science Students Together Reaching Instructional Diversity and Excellence (SSTRIDE), which inspires middle and high school students to pursue college and graduate school; Undergraduate SSTRIDE, which provides advising, mentoring, tutoring, and academic support to college students studying medicine; and the Minority Association of Pre-Medical Students (MAPS), which encourages participants to mentor others and perform community service while pursuing medical school. Berne-Anderson also leads the college’s Summer Institute, providing opportunities for youth to learn about the college application process, interact with medical students and faculty, and gain hands-on experience in medicine. FSU and the National Council of Negro Women have recognized Berne-Anderson for her work, and she recently became a member of the Florida Physician Workforce Advisory Council.

Dennis Bonilla serves as executive dean of the College of Information Systems and Technology at the University of Phoenix, overseeing curriculum and program development and ensuring successful student outcomes. As the child of immigrants and as a U.S. Navy veteran, Bonilla has had a prosperous career in the tech industry and currently works to promote STEM, information technology, and cybersecurity education. In 2016, Bonilla co-founded the University of Phoenix’s RedFlint Experience Center, which provides advanced technology training and hands-on learning experiences for community members, including area K-12 students. He is an advocate for Latinos in STEM and regularly writes about issues related to minority participation in tech for the publications Mi Mundo and Los Hispanos. Additionally, Bonilla is a member of the Microsoft Higher Education Advisory Board and the Hispanic IT Executive Council.

Miriam Chavez, PhD, teaches biology as a Regent’s Professor at the University of New Mexico-Valencia (UNM-Valencia) — a title awarded for her tireless dedication and service to the university. Throughout her 25-year career, Chavez has led efforts to create robust STEM programs that have resulted in 28 percent of UNM-Valencia’s student population — which is composed primarily of Hispanic and underserved students — to pursue a major in general science. She currently serves as principal investigator of several STEM grant programs supported by the U.S. Department of Education and the National Science Foundation and is the STEM Project Research Director for the university’s undergraduate research program. In addition to her service to the students of UNM-Valencia, Chavez serves as a science tutor and mentor at local elementary and middle schools. She is a three-time winner of the university’s Instructor of the Year Award and has been recognized by the New Mexico State Legislature and the Society for the Advancement of Chicanos and Native Americans in Science for her commitment to supporting Latinos, women, and other underrepresented groups in STEM.
As the first African American to be hired in the Psychology Department at Tulane University, Michael Cunningham, PhD, ensures that programs and attention are dedicated to underrepresented students. In his roles as associate provost for the Office of Graduate and Postdoctoral Studies and the Suzanne and Stephen Weiss Presidential Fellow, he has a history of spearheading programs that encourage these students to pursue STEM careers. Cunningham is the principal investigator (PI) for the university’s Louis Stokes Alliances for Minority Participation program, which provides underrepresented undergraduates with research experiences and encourages them to apply to PhD programs. Additionally, he is the PI for the Southern Educational Regional Board’s program to support minority doctoral students at Tulane. In the past, Cunningham has served as chair of the Society for Research in Child Development’s Frances D. Horowitz Millennium Scholars Program, which connects underrepresented undergraduates with mentors. As a developmental psychologist, Cunningham studies racial, ethnic, psychosocial, and socioeconomic processes that affect psychological well-being, adjustment, and academic achievement among African American adolescents and their families, and he has published more than 50 scholarly articles.

At Winston-Salem State University (WSSU), Co-Chair of the Department of Biological Sciences Stephanie Dance-Barnes, PhD, strives to inspire undergraduates to combine STEM and service work. Toward that end, she facilitates volunteer opportunities at local schools, which allow WSSU students to see themselves as STEM educators while also exposing K-12 students to STEM fields. Additionally, Dance-Barnes has fostered partnerships with three area schools; WSSU students regularly visit these institutions to engage children in hands-on activities and provide mentorship. As founder of the university’s Women in Science Program, she promotes a supportive learning environment in which women can thrive in the sciences with the help of mentoring as well as academic and professional resources. Also an associate professor of cell and molecular biology, Dance-Barnes has had approximately 25 undergraduates and four high school students rotate through her cancer research lab. Providing this experience for young people is important to her, as she believes it promotes the desire to pursue advanced degrees and STEM careers. In 2015-2016, the American Association for Cancer Research recognized Dance-Barnes with its Minority-Serving Institution Faculty Scholar in Cancer Research Award.

Anika Daniels-Osaze, EdD, is director of diversity education and research at the State University of New York (SUNY) Downstate Medical Center and president of the National Association of Medical Minority Educators, Inc. (NAMME). As a former biochemistry major, Daniels-Osaze chose to devote her career to supporting minority students in medical and science education. She has developed multiple programs to improve the recruitment and persistence of these individuals, obtaining more than $4 million in grant funding to support STEM initiatives specifically for underserved K-12 and college students. In addition to holding numerous roles with NAMME, Daniels-Osaze has been a volunteer mentor for community organizations that help minority youth. She is a recipient of the NAMME Director’s Award, the SUNY Downstate Extraordinary Woman Award, and the SUNY Chancellor’s Award for Excellence in Professional Service.

At Rose-Hulman Institute of Technology, Kay C Dee, PhD, serves as associate dean of learning and technology and as a professor and interim head of the Department of Biology and Biomedical Engineering. Under her leadership, her department revised its first-year curriculum to center on collaborative, project-based courses to provide learning experiences that motivate a broad range of students. Similarly, Dee is spearheading efforts to ensure the college’s online curriculum complies with Universal Design for Learning principles and is thus fully accessible to students with disabilities. Her commitment to creating engaging, inclusive science education has been acknowledged with numerous awards, including the Carnegie Foundation for the Advancement of Teaching Louisiana Professor of the Year Award, the Tulane University Inspirational Undergraduate Professor Award, and the Graduate Alliance for Education in Louisiana Award for Excellence in Mentoring Minority Researchers. Dee is also a fellow of the American Institute for Medical and Biological Engineering — an honor reserved for the top 2 percent of medical and biological engineers in the nation.
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Members of the Diversity and Inclusivity leadership team stand in front of the Lincoln mural in downtown Lexington. The leadership team includes representatives from the University of Kentucky, UK HealthCare and the UK College of Nursing.

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- 4th in PhDs awarded to African Americans among non HBCUs*
- 15th in PhDs awarded to women*
- 8th in number of Tenure/Tenure Track African American faculty among non HBCUs*
- 10th in number of Tenure/Tenure Track women faculty*

Having only begun his career as an engineering professor in 2013, **Tarak Jamel Dickens**, PhD, already has two patents, a provisional patent in process, three disclosures, and within the past two years, has received two major external funding awards to increase the role of diversity in high-impact research. However, some of his greatest achievements at Florida A&M University–Florida State University (FAMU-FSU) College of Engineering involve mentoring and supporting students. Dickens oversees the college’s undergraduate experience program; advises two engineering societies — the Society of Manufacturing Engineers and the Institute of Industrial and Systems Engineering; and serves as a research mentor for industrial and mechanical engineering research assistants, as well as for the College of Engineering Concepts Institute, the Living Learning Center, and the Program of Excellence in STEM. He is also active in other research mentorship programs at the university, including the FSU Young Scholars Program and the Undergraduate Research Opportunities Program. For his work at FAMU-FSU, he was recognized with the College of Engineering’s Outstanding Faculty Service Award in 2017.

As a female physicist in a male-dominated field, **Casey Durandet**, PhD, uses her experiences to inspire and mentor young women interested in pursuing STEM careers. In her position as a professor of physics at Paradise Valley Community College (PVCC), she helps students perform real-life experiments, conduct hands-on research, and present their findings to their classmates. Durandet has also coordinated the college’s STEM/STEAM (science, technology, engineering, arts, and math) Summer Camps for underrepresented high school students since 2012; the PVCC North Valley STEM Expos for the last three years; and the Annual Mancini Science Symposium since 2013. Additionally, she is a chair of PVCC’s STEAM Advisory Committee and oversees the STEAM Student Club for minority and international students. Every summer, Durandet continues her research on particle physics at the federal government’s Fermi National Accelerator Laboratory (Fermilab), where community college students have the opportunity to participate in summer research internships. On PVCC's campus, she established a cosmic rays lab, with equipment donated by Fermilab, for students to engage in particle physics research.

**Katherine N. Elfer** has been fearless in her pursuit of her goals despite the obstacles she’s faced having a hearing disability and being a woman. While working toward a PhD in biomedical engineering at Tulane University, she’s demonstrated a commitment to STEM education initiatives for underserved students. This work has included volunteering with the Perry Initiative to increase female leadership in the fields of orthopedic surgery and engineering, Girls In STEM at Tulane and Boys At Tulane in STEM to provide biannual workshops for middle school students to experience college life and academic laboratories, FIRST Louisiana-Mississippi to enrich science and technology learning among rural and disadvantaged students, and FIRST Robotics to assist high school students with designing and building robots. Through these experiences, Elfer has helped inspire nearly 2,000 male and female youth to pursue STEM careers. As a female physicist in a male-dominated field, she has been the recipient of numerous fellowships and awards for her service and scholarly work.

As a French-Canadian coming to the U.S. in 2007 without mastery of the English language, **Marie C. Fortin**, PhD, has since become a great leader in STEM. In addition to her dedication to protecting the health of workers and patients as senior manager of toxicology at Alcami Corporation, she is also passionate about teaching and mentoring students who are pursuing STEM degrees, as well as early career scientists. As a member of the Society of Toxicology, Fortin has held a number of leadership roles, including in the Women in Toxicology special interest group, the mentoring Subcommittee, the Career Resource and Development Committee, as well as a Regulatory and Safety Evaluation Specialty Section (RSESS). In these roles, she is working to promote and foster the development of budding scientists through a variety of initiatives; organizing webinars on the job-search and interview process; developing scoring criteria to evaluate the effectiveness of mentoring efforts, as well as managing the Matching Fund Program to support these activities; and organizing RSESS’s mentoring lunch-and-learn sessions. Additionally, Fortin is an adjunct faculty member at Rutgers University and has published a number of peer-reviewed studies on topics such as air pollution, pesticides, occupational hazards, and stress, including their effects on humans.
In his role as associate professor of marine science in the School of Natural Sciences at California State University, Monterey Bay, Corey Garza, PhD, serves as a mentor and role model for students. Having successfully navigated and overcome challenges as a STEM scholar of color, he understands the experiences of students from historically underrepresented groups and is deeply committed to the recruitment and career development of these individuals in ocean sciences. Toward that end, he serves as the principal investigator on several grant projects: the National Oceanic and Atmospheric Administration’s (NOAA) Educational Partnership Program with Minority-Serving Institutions, which supports and prepares students to engage in NOAA-related careers; the Woods Hole Oceanographic Institution’s Ocean Opportunities program, which supports minority undergraduates pursuing an education and careers in ocean science; and others. For the last 12 years, at the annual meeting of the Society for the Advancement of Chicanos and Native Americans in Science, Garza has chaired and organized scientific symposia and career and poster sessions centered on ocean science.

Medeva Ghee, PhD, serves as the executive director of the nationally renowned Leadership Alliance at Brown University, which supports individuals from historically underrepresented groups pursuing PhDs and careers in STEM. Under her leadership, the program has garnered funding from the National Institutes of Health and the National Science Foundation, allowing it to expand beyond its flagship Summer Research Early Identification Program to support the faculty development and curricular needs of Minority-Serving Institutions in the alliance. As a first-generation college student from rural Virginia, Ghee understands how difficult it can be for underrepresented students to pursue doctoral degrees and thus provides mentorship to support undergraduates who aspire to earn a PhD in STEM. In addition to leading the consortium, she is an assistant professor of the practice of behavioral and social sciences at Brown and is a member of the Diversity Advisory Council and the Initiative to Maximize Student Development Advisory Board. Furthermore, Ghee serves on the American Physiological Society Advisory Board and the Minority Health International Research Training Advisory Board. She has published extensively on the topic of HIV/AIDS and drug resistance.

Darrick Hamilton, PhD, is an applied micro-economist who specializes in examining and understanding group-based inequality. His work regarding the causes and consequences of racial and ethnic disparities — and the remedies to address these inequalities — has earned him the reputation as a social scientist. Hamilton’s experiences as an African American economist, as well as the loss of both of his parents when he was in high school, have pushed him to persevere and inspired him to assist other young people from underrepresented groups pursuing STEM careers. In his role as associate professor at The New School, he has mentored and advised minority students enrolled in economics doctoral programs for more than a decade through the American Economic Association’s (AEA) Mentoring Program; he also previously served as co-associate director of the AEA Summer Training and Minority Fellowship Program. Currently, Hamilton is the associate director of the National Science Foundation-funded Diversity Initiative for Tenure in Economics, a mentoring program for minority junior faculty that aims to increase their representation among tenured faculty.

As dean of the College of Engineering at Tennessee State University (TSU), S. Keith Hargrove, PhD, leads a student population composed of approximately 1,000 underrepresented students. He also serves as director of the TSU Interdisciplinary Graduate Engineering Research Institute, through which he has personally contributed to research in cybersecurity, advanced energy systems, and manufacturing. Raised in a family with six siblings, Hargrove learned the importance of succeeding even when resources are limited, and he has used his experiences to help others succeed as well. He has worked to engage underrepresented students in STEM fields by hosting the National Science Olympiad and the Regional STEM Expo for middle and high school students to promote STEM education; conducting summer pre-college programs to highlight STEM careers and prepare high school students to enter college as engineering majors; and coordinating community projects in which engineering students perform technical work. Hargrove also serves on the advisory boards of three schools and is a founding board member of a charter middle and high school in Nashville called STEM Prep Academy.
SYLVIA ACEVEDO
Sylvia Acevedo's illustrious career includes serving as an engineer for IBM, Dell, and NASA. A longtime member of the Girl Scouts of the USA (GSUSA) Board of Directors, Acevedo is credited with helping lead the organization’s efforts to emphasize STEM education and ethnic and racial inclusion and was recently named CEO of the organization; she is expected to make girls’ and women’s involvement in STEM a top priority of GSUSA. Her advocacy work has focused on promoting opportunities for girls and underserved populations in STEM, including serving on the President’s Advisory Commission on Educational Excellence for Hispanics and as a founding member of the country’s largest all-girls public school, the Ann Richards School for Young Women Leaders. (photo via Girl Scouts of the USA)

AYAH BDEIR
Ayah Bdeir is the founder and CEO of the tech startup littleBits Electronics, which produces toy blocks embedded with electronic circuits designed to engage children in the work of electrical engineering. Her products have been adopted by more than 2,000 schools in 60 countries, making her an international leader in the movement to promote fun and interactive STEM education. Also an advocate of open-source software, Bdeir has been recognized for her efforts to make tech more accessible and inclusive by CNN, Popular Mechanics, and Entrepreneur magazine. She is a senior fellow in the Creative Commons, Eyebeam, and TED fellowship programs. (photo via OHS Summit via Flickr)

CYNTHIA BREAZEAL
Cynthia Breazeal, ScD, is responsible for the creation of some of the world’s most technologically and socially advanced humanoid robots. As a graduate student at Massachusetts Institute of Technology (MIT), her invention of Kismet, a robot that expresses human emotion and interacts with people, broke new ground in human–machine interaction. A later, advanced model of Kismet, named Nexi, was chosen as a Time magazine Best Invention of 2008. Breazeal is also the lead developer of Jibo, a family-friendly robot designed for home use, and is the founder and chief scientist of Jibo, Inc. She currently serves as director of MIT’s Personal Robotics Group, which researches and develops socially intelligent robots designed to help humans learn, live, and communicate. (photo via MIT Media Lab/CC-BY-4.0)
Jerrod Henderson, PhD, has dedicated his career to increasing the number of students, particularly those from underrepresented groups, pursuing STEM fields. In his positions as an instructional assistant professor and director of the Program for Mastery in Engineering Studies at the University of Houston, he leads efforts to provide a specialized curriculum for selected freshmen and sophomore engineering students to increase retention through the use of innovative academic success strategies. Having grown up in poverty, Henderson had to overcome many obstacles on his path to success and, as an adult, has often been the only African American faculty member in his department. Yet, he has used these experiences to help others. He co-founded the St. Elmo Brady STEM Academy, an educational intervention aimed at exposing underrepresented fourth- and fifth-graders to hands-on, inquiry-based STEM activities. Henderson is also the adviser for the university’s National Society of Black Engineers student chapter. His research has examined how cross-curricular design projects affect students’ interest, engagement, and perception of chemical engineering and how out-of-school STEM programs affect K-12 students’ interest and engagement in STEM.

Understanding the value of partnerships, Veronica Henry, EdD, established the first-ever STEM Diversity Roundtable and Summit on Long Island, which brings together State University of New York (SUNY) campuses, area school districts, businesses, community organizations, and other colleges and universities to form a collaborative network. SUNY’s Farmingdale State College hosted the inaugural STEM Diversity Summit in 2011, and Henry has organized seven consecutive summits for all Long Island communities with representatives from each STEM field. She has also secured grants and sponsorships, enabling SUNY Farmingdale to purchase two STEM A+ Mobile Labs, which expose underrepresented K-12 students to the world of STEM. Immigrating to the U.S. in 1968, Henry placed great value on higher education and worked hard to get where she is, currently serving as executive assistant to the president, chief diversity officer, and Title IX Coordinator at SUNY Farmingdale.

An inspiring leader with a strong drive to give back to the community, Rigoberto Hernandez, PhD, reminds people that a supportive community is the key to success. At Johns Hopkins University, he serves as the Gompf Family Professor in the Department of Chemistry, as well as leads the Open Chemistry Collaborative in Diversity Equity (OXIDE) initiative. OXIDE supports workshops, research, and a network of academic leaders in order to redefine the academic infrastructure of chemistry to support diversity at all levels. This work led him to be recognized by the American Chemical Society in 2014 with its Award for Encouraging Disadvantaged Students into Careers in the Chemical Sciences. The primary focus of Hernandez’s research is chemical dynamics, and he applies a range of theoretical and computational methods to investigate problems in biology, chemistry, nanotechnology, and energy applications. Hernandez has garnered national and international recognition for his research and outreach from the National Science Foundation, the Research Corporation, the Alfred P. Sloan Foundation, and the Alexander von Humboldt Foundation, among others.

At the University of Texas Rio Grande Valley (UTRGV), Karen Lozano, PhD, serves as a role model to the university’s student body — which is 90 percent Hispanic and 56 percent female — for not only being a Hispanic woman in mechanical engineering, but also a tenured professor. As founding director of UTRGV’s Nanotechnology Center of Excellence, she mentors junior faculty and supervises undergraduate, master’s, PhD, and post-doctoral students in cutting-edge research. Lozano has achieved a 100 percent retention and graduation rate, and many of her past students now hold important industrial and academic positions. Her accomplishments also include exposing more than 10,000 K-12 students to the wonders of STEM careers through her “Magic Show” and launching a one-day conference, called NEURONS, where many of her past students discuss careers in industry, academia, and government with high school students. Additionally, Lozano has published and presented over 280 peer-reviewed journal articles and has more than 30 patents and patent applications. In 2015, she was named U.S. Engineer of the Year by the nonprofit organization Great Minds in STEM.
Ghana, and India, where they scholarships from the program—80 percent of Nearly students.

Overseas Studies and Scholarship Program, a partnership with professors, IU

In addition to making in-depth connections with professors, IUB students are also afforded the opportunity to expand their horizons by traveling and studying abroad. Since it was established in 2013, OVPDEMA’s Overseas Studies and Scholarship Program, a partnership with IUB’s Office of the Provost, has provided a transformative experience to students.

Nearly 350 students have benefited from scholarships from the program—80 percent of the recipients have been underrepresented minorities—which also conducts group trips to places like Brazil, the Dominican Republic, by IUB faculty and staff, who guide them in learning about new cultures. For many of the participants, these experiences have been their first trip overseas. To create more awareness of the opportunities available, the program hosted its inaugural Study Abroad Fair in the fall 2016 semester, educating approximately 200 attendees about the program at an international-themed event that featured a resource fair, presentations, performances, and giveaways for funding to obtain a U.S. passport.

The chance to gain some familiarity with international cultures was also made available to members of the African American Dance Company, one of the three performing ensembles within IUB’s African American Arts Institute. In the final year at the helm in the 43-year career of Professor Emerita Iris Rosa—an IUB alumna and the first director of the dance company—students traveled to China and Cuba to represent the campus.

The dance company first visited Beijing, China, in December as part of a cultural exchange with the School of Law and Humanities at China University of Mining and Technology-Beijing, in which the IUB traveling party held lectures and demonstrations, in addition to visiting cultural landmarks and interacting with their Chinese peers. Then, shortly before Rosa’s retirement in July, the dance company participated in an international dance and music festival, the Festival del Caribe in Santiago, Cuba, where they not only performed, but took part in classes with Cuban professional dancers and attended performances and lectures on the social, historical, and cultural aspects of the performing arts.

The African American Arts Institute, and its three ensembles are examples of the vast cultural resources available to IUB students. The campus has a comprehensive mix of cultural centers—the Asian Culture Center, First Nations Educational and Cultural Center, La Casa Latino Cultural Center, LGBTQ+ Culture Center, and Neal-Marshall Black Culture Center—that help the entire campus community and local residents learn more about their heritages and those of others, and complement the educational experience offered at IUB.

Those efforts are backed even further by OVPDEMA’s academic support programs at IUB: the 21st Century Scholars Program, Indiana’s four-year, full-tuition scholarship; the Academic Support Center, a resource that provides tutoring and other support services in a variety of locations on campus; the Groups Scholars Program, a four-year, full-tuition scholarship program for high-achieving, low-income Indiana residents that is nearing its 50th anniversary; the Hudson & Holland Scholars Program, a holistic support and scholarship program for underrepresented minority students; and the aforementioned Mentoring Services and Leadership Development, which provides peer mentoring.

“We are incredibly proud of the services and resources offered at IUB—and all of IU’s campuses—but it’s truly a testament to the hard work and leadership of our devoted staff and faculty, along with the determination and character of our outstanding students, that our efforts continue to be recognized nationally,” said James Wimbush, Indiana University’s vice president for Diversity, Equity, and Multicultural Affairs, dean of the University Graduate School, and Johnson Professor for Diversity and Leadership. “The recognition of these remarkable efforts will help serve as inspiration for campus partners to continuing making our campuses places where people of all backgrounds can thrive.”
Johns Hopkins is committed to recruiting a diverse community of faculty, students, and staff, and to cultivating an inclusive environment that supports, fosters and celebrates all the ways in which the broad differences among us make us better.
As the principal investigator (PI) for the Interdisciplinary Coaching as a Nexus for Transforming How Institutions Support Undergraduates in STEM (iCAN) project, Matthew Marino, PhD, utilizes coaching and mobile technologies to help undergraduates with disabilities succeed in STEM. Using the small Landmark College for students with disabilities as a model, he and his team plan to replicate its successful STEM program — adding a special education virtual tutoring component — at the University of Central Florida (UCF), where Marino serves as an associate professor. Having a disability himself, Marino has dedicated his career to assisting the next generation of special education teachers while researching methods to help students with disabilities succeed in STEM. The Institute of Education Sciences, the Office of Special Education, and the National Science Foundation (NSF) have supported his research, which concentrates on the implementation of technology-enhanced STEM curricular materials. Additionally, Marino is the PI on an NSF-funded grant project focused on Universal Design for Learning (UDL), and he serves in leadership roles on several committees dedicated to UDL.

**Estralita Martin**, PhD, assistant dean for student affairs in the College of Sciences at San Diego State University (SDSU), is dedicated to ensuring that African American students in STEM have every opportunity to succeed. As a professor of biology, Martin has focused on helping this group understand the connections between the African diaspora and the underrepresentation of African Americans in medicine by leading annual study abroad experiences that center on minority health disparities in Ghana. She is known for her passion for encouraging historically underrepresented students to defy expectations and become leaders in the fields of biology and medicine and often serves as an adviser and mentor to these individuals. As director of the Center for the Advancement of Students in Academia, she leads SDSU’s efforts to level the academic playing field for minorities in STEM and to prepare these students for the rigors of postgraduate studies in order to build the pipeline of the next generation of diverse STEM leaders. She has been named an Outstanding Faculty Member by SDSU and an Outstanding Black Educator by the national Phi Delta Kappa sorority.

As the director of field placement and certification and an adjunct professor at New York Institute of Technology (NYIT), Luz C. Minaya develops innovative programs that make technology and STEM training accessible to underserved students in the U.S. and abroad. As a former K-12 technology instructor and a mentor to countless NYIT students, Minaya serves as an advocate and role model for minorities in STEM, particularly for Latinas in tech. Her many accomplishments include the development of a successful model for creating student-staffed technical support teams in underserved New York City schools and the establishment of a partnership that enables NYIT students and instructors to provide technology training to public school teachers in Nicaragua. Minaya has been honored by the United Federation of Teachers, the City University of New York Dominican Studies Institute, and the Office of the President of the Dominican Republic for her commitment to providing quality education to underserved students.

For his efforts to mentor and support underrepresented students in his role as associate professor of biomedical engineering at Tulane University, Michael J. Moore, PhD, has been recognized by his students as “Teacher of the Year” three times. As a past recipient of the National Science Foundation’s Faculty Early Career Development Award — which recognizes junior faculty who have the potential to serve as academic role models in research and education — Moore has mentored minority undergraduates in New Orleans through a summer research experience. In addition, he has mentored underrepresented students in his lab through the university’s Summer MAterials Research at Tulane (SMART) initiative; the majority of these individuals went on to pursue graduate or medical school. Moore’s own research has centered on multichannel scaffolds for nerve repair, as well as the development of biodegradable, multichannel nerve implants. Also an inventor, Moore has a Mayo Clinic patent that has been licensed to a startup company.
A nationally renowned labor economist, Marie T. Mora, PhD, conducts research on the socioeconomic outcomes of Hispanics, other minority groups, and women. In her role as a professor of economics and associate vice provost for faculty diversity at the University of Texas Rio Grande Valley (UTRGV), she has spearheaded and led numerous initiatives that have inspired and supported students and faculty in STEM; these have involved professional development, mentoring, and networking opportunities for groups historically underrepresented in these fields. Mora is co-founder and chair of the Women’s Faculty Network, which had an 80 percent participation rate for STEM tenured and tenure-track female faculty in 2016-2017, and serves as director of the university’s National Science Foundation-funded American Economic Association Mentoring Program, which supports minority students pursuing PhDs in economics. She is the first woman to receive tenure in her department. Additionally, Mora is a research fellow with the Institute for the Study of Labor in Bonn, Germany, and has been invited to share her expertise with leaders of several U.S. government agencies and initiatives.

In her role as associate professor of engineering at California State Polytechnic University, Pomona (Cal Poly Pomona), Monica Palomo, PhD, PE, has been recognized on numerous occasions for her dedication to underrepresented students. Palomo designed and led the National Science Foundation-funded Sustainable Sanitation through International Research Experiences program, which provided an opportunity for Hispanic and first-generation undergraduates to study water conservation in South Africa. Palomo has also spearheaded collaborative sustainability projects between Cal Poly Pomona and nearby Pasadena City College (PCC) — a two-year school — which resulted in an increase in PCC students transferring to the university to pursue advanced STEM degrees. She serves as faculty adviser to the university’s Society of Hispanic Professional Engineers and Engineers Without Borders, and she advocates for water conservation at home and abroad through the organizations Water for People and the California Water Environmental Association. Her commitment to students has been recognized with numerous institutional teaching awards and by the Northrop Grumman Foundation Excellence in Engineering Education Award.

Cordelia Ontiveros, PhD, PE, a professor of chemical engineering and former interim dean of the College of Engineering at California State Polytechnic University, Pomona (Cal Poly Pomona), has led multiple endeavors to increase the representation of women and girls in STEM. Her achievements include founding the Cal Poly Pomona Women in Engineering program, which, through its recruitment and retention efforts, has helped lead to a 50 percent increase in female student enrollment. Ontiveros is also co-founder of the Cal Poly Pomona Femineer Program, which has been recognized by U.S. News & World Report and the White House Initiative on Educational Excellence for its effectiveness in encouraging and engaging female K-12 students in STEM project-based learning. Under Ontiveros’ leadership, the College of Engineering partnered with the national organization Project Lead the Way to bring STEM teacher training to area schools that serve primarily Hispanic and other underrepresented students. She is a recipient of the university’s Administrator Award for Excellence in Civic Engagement and the Women in Engineering ProActive Network’s University Change Agent Award.

Dedicated to ensuring gender equality in STEM professions and higher education, T. Annelise Nguyen, PhD, strives to increase the representation of women and underrepresented minorities in STEM. Nguyen currently serves as the K-12 outreach representative for the Central States Society of Toxicology (CSST), as well as president-elect for the chapter, which attempts to bridge the gap between scientists and K-12 science education. In her position as associate professor of toxicology at Kansas State University (KSU), her efforts to inspire young people to pursue STEM careers have included producing several publications with three of her students, developing an outreach program for CSST called Developing Toxicology Concept Experiments for K-12 Students, designing and facilitating Girls Researching Our World activities to support and increase girls’ interest in STEM, serving as founder and adviser for the American Association for University Women chapter at KSU, and more. During her time at the university, Nguyen has mentored or advised more than 85 students and scholars. As a molecular toxicologist with an emphasis on cancer cell biology, she has authored or co-authored over 35 peer-reviewed publications.
According to Diverse Issues in Higher Education, the A. James Clark School of Engineering is ranked among the top 10 in conferring the most B.S., M.S., and Ph.D. degrees to African-American students.

For more information about our programs, please contact the Clark School’s Center for Minorities in Science and Engineering at 301-405-3878 or cmse@umd.edu, and learn more at www.eng.umd.edu.
Yvette Pegues, MEd, is a thriving advocate for underserved and underrepresented groups in STEM, as well as a professional speaker, life coach, and author. She has made a successful career for herself with the confidence she’s gained from her experiences as a woman of color, a person with a disability, and a first-generation high school student, college graduate, and PhD candidate. As founder and chief transformation officer for Your Invisible Disability Group, Pegues advocates for people with disabilities, the elderly, and veterans as a corporate disability/diversity consultant, providing ADA advisory and workplace culture cultivation to integrate people of difference into the workplace, marketplace, and academia. She is also the host of #disAbilityLifeTV and provides mentoring through local hospitals and the nonprofit organization STEM Atlanta Women. In her previous position as worldwide program delivery manager at IBM, Pegues served on several patent teams, wrote white papers on emerging technology, and helped pave the way for the world’s first cloud-based data and analytics platform with cognitive business intelligence. In 2016, she was named Ms. Wheelchair USA.

As an immigrant from a third-world country, Dil Ramanathan, PhD, has learned to persevere through work, family, financial, and cultural pressures and hardships. Now an assistant professor at Kean University — where she is the only female STEM faculty member — she has mentored over 100 undergraduate and graduate students, with a particular emphasis on paving the way for future generations of female scientists. Ramanathan participates in the Group Summer Scholars Research Program, which allows high school students to conduct research in faculty labs at Kean, helping them develop a true appreciation for the scientific process. With a goal to transform the way in which science and math are taught, she has been working with a team of faculty members to enable students to get firsthand research experience by joining faculty-led teams in labs as early as their freshman year of college; called the Research First Initiative, it is designed to attract and retain students in STEM fields — particularly those from underrepresented groups. In 2008, Ramanathan established the Biotechnology Club at Kean, which has grown to more than 50 members and has been recognized as one of the university’s outstanding clubs for three years in a row.

As an associate professor of science and deputy chief diversity and inclusion officer at Robert Morris University (RMU), Anthony G. Robins, PhD, has led or participated in numerous efforts to ensure an inclusive, supportive campus environment for all students. In addition to his extensive participation in institution-wide efforts to support minority students, Robins serves as co-chair of the School of Engineering, Mathematics, and Science’s Diversity and Inclusion Task Force, a position in which he develops and leads programs focused on the persistence and success of the college’s underrepresented students. Robins also serves as a mentor for female students in STEM and is a board member of the Black Caucus of Public Health Workers, as well as former director of the Healthy Black Family Project. His extensive research interests include African American male student success and diversifying the STEM workforce. He has been included on the New Pittsburgh Courier’s list of 50 Men of Excellence.

Havidán Rodríguez, PhD, has dedicated his career to leading initiatives that address the same issues he has confronted both personally and professionally. He has led numerous efforts to encourage women and underrepresented minorities to pursue STEM professions, as well as aspire to leadership positions in higher education. As provost and executive vice president for academic affairs at the University of Texas Rio Grande Valley (UTRGV), Rodríguez has been a staunch supporter of enhancing faculty development, scholarship, and teaching in STEM. As principal investigator on an ADVANCE grant from the National Science Foundation — which places an emphasis on Latinas in STEM — he established the ADVANCE Leadership Institute, Administrative Fellows Program, Associate to Full Professor Program, and the Women’s Faculty Network at UTRGV. Rodríguez’s research from field projects in places like Honduras, Sri Lanka, and the Gulf Coast has been used to shape public policy related to human rights and social justice, such as improving warning systems for natural disasters. He will begin his new position as the 20th president of the State University of New York at Albany in mid-September.
Kimberly Bryant
Kimberly Bryant is a former computer programmer and electrical engineer who has worked in the area of biotechnology for companies such as Genentech, Inc., and Merck & Co., Inc. In 2011, she left her prosperous career in Silicon Valley to found the nonprofit organization Black Girls Code, which teaches programming skills to young women of color. Bryant’s goal is to provide computer programming classes for 1 million girls by 2040; currently, more than 3,000 young women have participated in the organization’s programs. Bryant has been named one of the 25 Most Influential African Americans in Technology and one of the 26 Most Powerful Female Engineers by Business Insider. In 2013, she was honored as a White House Champion of Change for Tech Inclusion. (photo via Ståle Grut/Flickr)

Lynn Conway
Lynn Conway is considered one of the most influential women in the history of computing. In the 1960s, she helped develop the first parallel processing technology, which radically improved computer-processing speed. Conway’s work miniaturizing the microchip with engineer Carver Mead led to what has been dubbed the “Mead and Conway Revolution” for its radical effect on computer design. Conway is also celebrated for being a pioneer in transgender rights, having transitioned from male to female in 1968 — a decision that, at the time, cost her a prominent position at IBM. Today, she is a leading activist for LGBTQ acceptance in the workplace and the tech industry and has been named one of Time magazine’s 21 Transgender People Who Influenced American Culture. (photo via University of Michigan)

Alan Emtage
Alan Emtage, an immigrant from Barbados, is considered the father of the modern search engine. As a graduate student at McGill University in Montreal, Canada, he invented Archie, an electronic index software capable of searching 2 million files across 1,200 websites — a feat that previously required hours of manual searches by systems administrators. Opting not to patent the technology, Emtage instead got a commercial license for his software and co-founded the world’s first internet information services company, Bunyip Information Systems. He is also a founding member of the nonprofit organization the Internet Society, which promotes internet access and education worldwide. (photo via Alan Emtage)
As a native Spanish speaker from a low-income family in Puerto Rico, **Miriam Segura-Totten**, PhD, struggled as a freshman biology major at Princeton University and had to work three times as hard as her peers to catch up. However, her hard work and dedication to excellence in education paid off, and she now serves as the Harry B. Forester Eminent Scholars Chair in Biological Sciences and a professor of biology at the University of North Georgia (UNG), where she is committed to helping other young people succeed. Segura-Totten recently served as a judge for The Dream, a private organization that offers scholarships to help undocumented Deferred Action for Childhood Arrivals students attend college. Furthermore, she serves on her department’s Council on Undergraduate Research, through which she works to establish strong communities of practice for undergraduate research at the university and national levels. For her efforts, Segura-Totten has received the Distinguished Teaching Award from UNG and the University System of Georgia’s Regents’ Teaching Excellence Award.

**Joseph Skrivanek**, PhD, has devoted much of his 40-year career as a professor of chemistry at the State University of New York (SUNY) at Purchase to broadening the STEM pipeline. He is founder and director of the Baccalaureate and Beyond Community College Mentoring Program, which has been recognized for dramatically increasing the graduation rates of community college transfer students — particularly those pursuing STEM degrees — and has been replicated across the SUNY system under Skrivanek’s direction. His other endeavors include partnering with community organizations to bring STEM awareness and opportunities to minority K-12 students and developing science curricula and programs tailored specifically to the needs of community college and high school students. He has successfully advocated for more than $4 million in funding from the National Science Foundation, the National Institutes of Health, and other organizations to support programs for underrepresented students. In 2011, he was honored with the Presidential Award for Excellence in STEM Mentoring.

Born in India, **Archana Srivastava** was raised in a culture where many girls not only struggle to get an education, but also lack the freedom to explore and choose careers in STEM. She credits her parents for her ability to do both and thus places great emphasis on increasing the representation of women in STEM fields. With the unique distinction of being a female leader in a male-dominated profession as the vice president of product and engineering at Trellis Energy, Srivastava has developed an engineering team that brings much-needed gender diversity to both the field of technical engineering and the energy industry. Because of her commitment to diverse hiring and her belief that greater gender diversity in leadership roles is good for business, she has helped make Trellis a model for other companies; under her leadership, women comprise 60 percent of the company’s technical engineering leadership team and 30 percent of its engineering team. Furthermore, Srivastava helped develop an intern program for the daughters of Trellis employees to teach them software development and inspire them to pursue careers in the field.

Serving as a champion for the sciences and a role model for women in STEM, **Lynn Stauffer**, PhD, became the first female faculty member in the Computer Sciences Department at Sonoma State University (SSU) in 1994. Currently dean of the School of Science and Technology at the university, she leads efforts to inspire young people of all backgrounds to pursue STEM fields. She established the SSU Women in Computer Science group, which has grown to support women across all technical fields at the university, and the SSU MESA (Mathematics, Engineering, Science Achievement) Center, which is focused on advancing the achievement of educationally disadvantaged students and helping them attain degrees in STEM. Stauffer also established the STEM Certificate Pathway partnership — a program that guarantees early admission to SSU — with Piner High School, which serves a diverse student body in an underserved area. As the lead on a grant from the National Science Foundation, she works to improve the success of students pursuing STEM degrees through the S3: STEPping Up STEM program at SSU. Participants in this program are three times more likely to continue in STEM beyond their freshman year.
Drs. Michael Savka and André Hudson are an energizing force, focused on nurturing the personal and professional growth of their students and the international science community in their roles as professors in the Thomas H. Gosnell School of Life Sciences (GSoLS) at the Rochester Institute of Technology. Working side-by-side in a lab space, for nine years led to a symbiotic mentor relationship that has both transformed learning and have positively impacted the School of Life Sciences.

This pair of faculty members from RIT’s GSoLS came from vastly different upbringings, but quickly bonded over their love of science. Savka, who had been working at RIT for 12 years, met Dr. Hudson during the hiring process and immediately noticed Hudson’s "excitement around science. Sharing my lab in the beginning brought us closer, bringing new meaning to our work and taking our research to another level, strengthening a partnership," explained Dr. Savka.

“Mike leads by example and has impacted my work/life balance... and how to make a life vs. making a living. It didn’t start on work related conversations,” emphasized Dr. Hudson. A mentorship is typically or often structured with a ‘recommended’ number of meetings and specific times and places to meet. A newly hired faculty member often feels assigned to someone, expected to connect. But “a fruit that is forced to ripen is never sweet,” argued Dr. Hudson. However, this expectation does not always lend itself to an organic, sincere and impactful connection in itself.

Dr. Hudson and Dr. Savka share their love of science, close office proximity, lab space and equipment; these are replicable factors that can build a good model for forging intercultural connections in STEM fields. The vitality of relationships and the faculty you hire have many intricacies to consider, to create successful matches, including personality, their respective research interests, respect for their colleagues, and their philosophies around teaching and learning.

Each newly hired faculty should showcase their intrinsic desires to collaborate. In other words, exceed the norm, aspire to publish their discoveries and seek opportunities to build their professional track record. Capitalize on the energy of new faculty when they join your institution. It’s an exciting time, not only for new faculty and an occasion to reinvigorate current faculty. Savka found another scientist in Hudson who was equally passionate in STEM, making a world of a difference in both of their careers.

Consequently, letting your STEM faculty leaders connect naturally: creates comfortable learning environments; prevents burnout; and establishes their credibility through flexibility - all while propelling their research programs. Ideally, faculty will create a synergy, almost an enviable atmosphere, developed on “having someone who honestly respects you, values your research and is vested in growth and development,” affirmed Dr. Hudson. Take the calculated risk to be innovative and create a new future outlook. Each person is valued for their diversity, but also engaged to build an inclusive cultural experience at your institution.

To learn more, connect with Professors’ Savka and Hudson.

RIT Alumni
What Ming learned from Mike and André now shapes how he approaches research at Deakin University (Australia).
This demonstrates that it is important to nurture student research skills early.
Now he replicates his research experiences at RIT by recruiting first-year undergrad students to work in his lab.
Initially, [the undergraduate] students were skeptical, but “with my encouragement and their dedication, everything worked out.”

Our successes’ highlight all [the students’] “ability, competence and willingness to learn, but [they] also demonstrate my commitment, inspired by RIT, Mike and André.”

HAN MING GAN, Ph.D.
School of Life and Environmental Sciences
Centre for Integrative Ecology
Deakin University
As an immigrant and former bilingual elementary school teacher, Alma Stevenson, PhD, associate professor of literacy at Georgia Southern University (GSU), understands the role of language and culture in K-12 classrooms. As such, she has dedicated her career to improving science education for students who are English Language Learners (ESL), Hispanic, or from other underrepresented groups. Stevenson’s widely published research focuses on key elements for creating culturally inclusive STEM pedagogy, including helping teachers understand the importance of linguistic and socio-cultural perspectives of minority students. She has led multiple grant projects and initiatives to improve educational equity in Georgia and nationwide, and she performs educational outreach for many Latino organizations, schools, and communities. As a pioneer in her field, Stevenson is working to prepare the next generation of teachers to be culturally responsive, insightful, and effective in order to lead diverse STEM classrooms.

William F. Tate, PhD, is a pioneer in the study of social determinants affecting the success of minority students in STEM. He currently serves as the Edward Mallinckrodt Distinguished University Professor, vice provost for graduate education, and dean of the graduate school at Washington University in St. Louis. Tate’s prolific career includes serving as senior researcher for the National Institute of Science Education at the University of Wisconsin-Madison and as president of the American Educational Research Association (AERA), in addition to many other professional and volunteer roles in which he advocates for the advancement of STEM education. His research has consistently contributed to the improvement of math education for underserved students, with a particular focus on educational outcomes for African Americans. Additionally, Tate is a recipient of the AERA Distinguished Contributions to Social Contexts in Education Research–Lifetime Achievement Award and has been named an Anna Julia Cooper Fellow, Patricia Roberts Harris Fellow, and Ford Foundation Fellow.

In his 13-year tenure as program coordinator of the North Carolina State University Mathematics and Science Education Network (NC-MSEN), a pre-college program, Braska Williams Jr. has helped introduce more than 4,500 underserved middle and high school students to the world of STEM education and careers. He has expanded NC-MSEN to include classes focused on engineering, robotics, and college planning in order to provide participants — who are primarily African American and low-income — with opportunities to learn about state-of-the-art technology, compete in statewide math and science competitions, and prepare for postsecondary STEM degrees. A former math teacher and longtime employee of the Cooperating Hampton Roads Organizations for Minorities in Engineering, Braska has been the recipient of numerous research grants from NASA, the National Science Foundation, and other organizations, including several projects dedicated to enhancing opportunities for underrepresented groups in STEM.

At leading geographic information systems software company Esri, Dawn Wright, PhD, serves as chief scientist, a role she uses to advocate for women in science. Through the GeoMentor program, a partnership between Esri and the American Association of Geographers, she works to promote and advance the careers of women and underrepresented minorities in the geosciences. Wright is also a professor at Oregon State University, where she has conducted research on mapping the sea floor, ocean conservation, geophysics, and environmental ethics. As the leading authority on the use of geospatial technologies in understanding the ocean, Wright is regularly invited to present at events at institutions such as the National Museum of Natural History, the National Academy of Sciences, and the Geological Society of America. She also often speaks at local schools in California to inspire young people to consider careers in science and technology. Additionally, Wright is active in the American Association of Geographers and the University Consortium for Geographic Information Science, serving in leadership positions in both organizations.
JOHN HERRINGTON

John Herrington is recognized as the first Native American astronaut to travel to outer space. A registered member of the Chickasaw Nation, Herrington served as an aviator with the United States Navy until 1996, when he was recruited by NASA as a mission specialist. In 2002, he joined the crew of the space shuttle Endeavour for its flight to the International Space Station. Herrington has also served as an advocate for Native American inclusion in STEM and was named a Sequoyah Fellow by the American Indian Science and Engineering Society for his efforts to encourage indigenous students to pursue math and science. (photo via NASA Johnson/Flickr)

FREEMAN A. HRABOWSKI

Freeman A. Hrabowski III, PhD, is a leading advocate for minority participation in STEM. As a researcher, he is known for his work connecting issues of educational equity to civil rights and for creating successful models of STEM education programs for underserved students. In addition to serving as a consultant for the National Science Foundation and the National Institutes of Health, Hrabowski has served as president of the University of Maryland, Baltimore County since 1992. He is a recipient of the White House’s Presidential Award for Excellence in Science, Mathematics, and Engineering Mentoring and the General Electric African American Forum ICON Lifetime Achievement Award. (photo via UMBC Office of the President)

JANE McGONIGAL

Jane McGonigal, PhD, is known for her revolutionary work in game theory, with a focus on developing video games that improve mental health and promote global collaboration to solve issues such as poverty and climate change. She has worked as a game consultant and developer for Intel, Microsoft, Nintendo, and several other Fortune 500 companies and is currently the CEO of the nonprofit organization Institute for the Future. Her philanthropic endeavors include creating social impact games for organizations such as the American Heart Association, the World Bank Institute, and others. She has been named one of O, The Oprah Magazine’s 20 Most Inspiring Women in the World and a Young Global Leader by the World Economic Forum. (photo via Paolo Sacchi/Flickr)
Nationally, women earn 41 percent of all doctorate degrees in science, technology, engineering, and math (STEM) disciplines but make up only 28 percent of tenure-track faculty in those fields, according to White House data.

There are multiple reasons for this disparity, says Margaret J. Sobkowicz-Kline, PhD, an associate professor of plastics engineering at the University of Massachusetts, Lowell (UMass Lowell). “I wasn’t sure I wanted to enter academia as I worked on my PhD because I watched my mentor, who was male, struggle with balancing the workload and working independently on his research,” she says. “I considered other professions before I accepted a position on the faculty.”

In addition to balancing teaching and scholarly pursuits, subtle gender bias is another obstacle that can prevent women from entering — or can result in their leaving — academia, says Meg Bond, PhD, director of the Center for Women and Work and a psychology professor at UMass Lowell. Although biases are not usually overt, subtle actions — such as extending invitations to professional events only to junior male faculty — present barriers to female faculty members as they pursue advancement in academia, she adds.

Thanks to a five-year, $3.5 million ADVANCE Institutional Transformation grant from the National Science Foundation (NSF) — awarded in fall 2016 — UMass Lowell is focusing its efforts on removing such obstacles for female faculty in STEM through an initiative called Making WAVES (Women Academics Valued and Engaged in STEM). Led by Bond and Vice Chancellor for Research and Innovation at UMass Lowell Julie Chen, the initiative is designed to “raise awareness about microaggressions, promote equity and alternative paths to mentoring, reform institutional practices, and hold departments and colleges accountable for becoming more inclusive,” according to a university press release.

The grant builds on previous research that included the development of the Subtle Gender Biases Index (SGBI), a tool that measures gender bias to identify microaggressions and the barriers that deter women from pursuing or staying in STEM faculty roles, says Bond. “We learned that microaggressions occur in daily interpersonal interactions and that women are more aware of them than men,” she says. The university will administer the index every two years to evaluate any changes resulting from the Making WAVES initiative and to stimulate discussion.

Bond believes that identifying, addressing, and making all faculty members — both male and female — aware of the unintended biases that occur in daily interactions is key to overcoming them. Through the Making WAVES initiative, UMass Lowell has been working to raise awareness of issues of gender equity and bias in STEM by sharing SGBI data and hosting workshops, retreats, and seminars, among other events and activities.

The 50/50 Lecture Series brings noted scientists to campus to highlight their achievements as well as their personal journeys. Its format is very strategic: One half of a lecture is devoted to the speaker’s area of technical, educational, and research expertise, while the other segment is dedicated to examining his or her career path. Bond believes that hearing about other scientists’ challenges and how they have overcome obstacles, balanced their personal and professional lives, or been influenced by mentors inspires junior faculty members, especially women, to persevere.

One purpose of the event, according to a university press release, is to help junior female faculty develop relationships with individuals who can serve as mentors and who will aid them in their scholarly work, such
as by extending invitations to speak at conferences or serving as a co-investigator on research. “The faculty member who [organizes the event] proposes follow-up with the speakers — a visit to a senior scientist’s lab or attendance at a professional conference together — as a way to strengthen [female faculty members’] professional network outside the campus,” Bond says.

Sobkowicz-Kline leads the lecture series and has received excellent feedback from other UMass Lowell faculty members as well as students. “We invite speakers — women and men — who are prominent in their field and who may have taken a different path to academia,” she explains. “We want to show that scientists come from diverse backgrounds; it is not always a straight line from undergraduate to graduate and doctoral degrees to become a professor and scientist.” In fact, one speaker worked at the Environmental Protection Agency for four years after earning her PhD before entering academia, which Sobkowicz-Kline says shows that it is never too late to pursue goals.

Just as the 50/50 Lecture Series connects junior faculty to potential mentors, IDEA (Interdisciplinary Exchange and Advancement) Communities are designed to enhance mentoring and support for innovative scholarly work among women. The initiative brings together both junior and senior female science and engineering faculty from across the university to discuss their work and common struggles.

Sponsored by the Center for Women and Work, the IDEA Communities meet monthly to discuss a shared interest or common issue and to support each other. Topics often focus on a specific theme, such as climate change or digital health, and members have an opportunity to talk about their research, including the challenges they may be facing in pursuit of a grant or the development of a symposium, as well as their struggle to balance family and work responsibilities. Because subtle biases and microaggressions are not limited to one discipline, Bond believes it’s important to take this multidisciplinary approach to expand the number and types of perspectives represented by the group.

A Cultural Transformation

Even at excellent institutions such as UMass Lowell — which is committed to diversity and opportunity for every person — these subtle slights exist, Bond says. She cites several examples of unintended biases that occur at the university level: senior faculty informally visiting male junior faculty during the day, department chairs assuming women don’t want to travel if they have young children at home, and ideas originally presented by women not gaining traction until a male faculty member agrees or presents the idea himself, among others.

“None of these actions are mean-spirited or meant to intentionally slight women, and individually, each might not mean much, but the accumulation
of these and other microaggressions can result in different access to opportunities for recognition and growth,” says Bond. “These subtle biases can undermine confidence and [create] barriers to resources and inclusion in professional networks for women.”

Yet, even when female faculty are provided access to more opportunities, they are not often those that lead to career advancement, says Sobkowicz-Kline. Examples of time-consuming activities that take women away from research include having to mentor increasing numbers of female students or handling committee assignments that are task-oriented, such as taking meeting notes.

“My mentors would suggest that I take on service-related roles, which I was happy to do, but having many departmental and university commitments doesn’t leave much time to think about my own research,” explains Sobkowicz-Kline, adding that because research is a critical factor in achieving tenure, these roles may create additional barriers.

Because pre-tenure professors often want to be agreeable team players, they may have difficulty saying no. However, Sobkowicz-Kline believes that men are not asked to assume these service-related roles as often as women, and when they are, they are able turn them down more easily — an ability that she believes is also a result of tenure. “As a tenured professor now, I am more empowered to choose my direction and use of my time,” she says.

Increased awareness of subtle biases that result in women’s assuming roles that may not be beneficial to their advancement will lead to more careful assignment of responsibilities by senior faculty leaders, Bond suggests. Junior faculty members will also begin to be more confident as they select the assignments that they will take on — choosing roles that support STEM departments’ goals but that also leave them time to pursue other activities that lead to tenure, she adds.

However, changing behavior related to subtle biases will not happen overnight; rather, it requires a university-wide, cultural transformation. Because many of these biases are the result of male-dominated fields conducting business as usual — with “this is the way we’ve always done it” as the pervasive way of thinking — Bond says it is important to address the issue in a way that doesn’t blame senior male faculty.

“We assume people don’t realize that some traditions do affect women or other underrepresented groups,” she explains. “In addition to increasing awareness of the issue, we also encourage others to speak up for women or other faculty members who might be affected by existing traditions.” Thus, the next component of the Making WAVES initiative will be a workshop designed to introduce department chairs and lead faculty members to bystander interventions to enable them to speak up when they observe gender bias in the workplace. Bond believes that educating people on techniques for avoiding direct confrontation — and by being diplomatic and speaking in terms of policy or structural issues that are harmful — will help change behaviors without making personal accusations.

The Making WAVES initiative, although still in its infancy, has already increased awareness of subtle biases and empowered faculty members to speak up for their colleagues — even when they are not in the room, says Sobkowicz-Kline. Recently, during a search committee conversation about a candidate, a committee member referred to a discussion that could be considered biased, even though subtle. It is small realizations such as this that Sobkowicz-Kline says can have an immense impact on women in academia — and in STEM fields.

●

Sheryl S. Jackson is a contributing writer for INSIGHT Into Diversity. For more information, visit www.uml.edu/Research/ADVANCE.
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Thesla Berne-Anderson
Director of Undergraduate Outreach and Pre-College Programs
Innovative Programs Expose Rural Students to Opportunities in STEM

By Mariah Bohanon

Faced with a lack of educational resources and limited job opportunities, students from rural areas of the country increasingly fall behind their urban peers when it comes to college readiness and enrollment; participation in postsecondary education is 36.2 percent less likely for rural youth than non-rural youth, according to a 12-year longitudinal study that tracked student outcomes from 1988 to 2000. When it comes to the fields of science, technology, engineering, and math (STEM) — industries that struggle to find qualified professionals to work in non-metropolitan areas — the rate at which rural students are participating in these fields is unknown.

In an effort to ensure better educational outcomes while also meeting industry workforce demands, some organizations and institutions are using specially designed programs to increase awareness of educational and career opportunities in STEM among K-12 students in some of the country’s most rural, under-resourced communities.

Connecting Education to Careers

In West Texas, the Texas STEM Degree Accelerator Program (TSDAP) prepares students to enter the pipeline of highly skilled workers that are continuously needed by the region’s energy, healthcare, and manufacturing industries. A statewide effort overseen by the foundation Educate Texas, the program relies on teams of K-12 schools, colleges and universities, and industry partners to address educational and workforce needs by region. While metropolitan areas are the focus of most other TSDAP teams, West Texas is extremely rural, with most counties being vast in geographic area but low in population density.

“In a rural area like ours, most students are going to want to stay in their hometowns, but if you live in a place with 1,000 people, that’s obviously not going to give you a lot of opportunities,” says Roy Bartels, a TSDAP coordinator and chief technology and information security officer for Western Texas College (WTC) — a program partner. “Our job is to encourage students to stay in the region by helping them find the STEM jobs that exist here and that fit their interests.”

Two years ago, Bartels helped launch the West Texas team in partnership with area organizations representing local industries — known as workforce partners — along with the region’s six major community colleges and multiple K-12 school districts. Working directly with the workforce partners, the schools and colleges know exactly what STEM skills and credentials local employers are seeking, Bartels says. This gives the team the ability to help students align their interests with the proper courses and degree programs that will qualify them for in-demand STEM careers, he explains.

Being in a rural area, of course, poses unique challenges for TSDAP,
which means the team has to come up with creative solutions to meet the specific needs of the region, explains Kelty Garbee, PhD, deputy director of programs for Educate Texas.

“One of the challenges in West Texas is proximity to higher education. Another is having enough people to form a critical mass to get the attention of a funder or a higher education or workforce partner,” says Garbee. “So what you see when organizations in rural areas like this come together is that they’re able to collaborate and pool resources across K-12 districts and higher education institutions.”

To deal with the issue of limited access to professional development opportunities, the West Texas Energy Consortium — a TSDAP major workforce partner — annually hosts a STEM teacher-training event for educators across the region. The event provides a space for K-12 teachers to collaborate with school administrators and local employers on how to prepare students who are interested in STEM to enter the local workforce.

Furthermore, the West Texas TSDAP team is in the process of creating what Bartels calls a “virtual STEM resource center” that will make information on the area’s STEM resources and job opportunities accessible to the entire region. The website will also help interested students determine the area of study they want to pursue and which of the region’s six community colleges to attend. Relying on the joint efforts of multiple organizations across a large area, the online resource center exemplifies the spirit of solidarity that has characterized all of the team’s efforts, Bartels says.

“It’s been quite a process, because organizing and working on such a large regional scale was something that had not been done before,” he says of the West Texas project, which is preparing to enter its third year. “It’s made a big difference because we see how each campus and organization can contribute so that everybody in the region can benefit.” Bartels says that he and his team are just now beginning to gather information to assess the program’s overall impact on students and the region.

An Introduction to Engineering
Jodi Prosise, PhD, chair of the engineering department at Saint Ambrose University (SAU) in Davenport, Iowa, believes that rural students are motivated to engage with STEM education when they can see how the subject matter affects the world outside of their classroom.

For the past five years, she and her colleagues have traveled to rural high schools across eastern Iowa and
western Illinois as part of a recruitment initiative that has helped nearly triple the number of SAU engineering majors. “We do a lot of lectures and activities that make students see that engineering can change the world and make it a better place,” Prosise says. “The [most surprising] thing we hear is that they had no idea [of] the types of things that engineers can actually do.”

During these high school visits, SAU engineering faculty and graduate students offer guided activities that introduce the basics of the engineering profession and allow students to engage in hands-on projects. “We walk them through the design process and present them with a problem to help improve someone’s life, like creating a device to help a person in a wheelchair reach things out of his or her grasp,” Prosise explains. “We help the students come up with requirements and specifications, do some brainstorming, develop a design, and make a prototype out of simple classroom materials.”

She says the participants are always surprised at the amount of creativity involved in the projects and at their own ability to design objects that can improve lives.

Having grown up in the region, Prosise says she relates to the students, many of whom know very little about most STEM professions. “I grew up in a small town not knowing what engineering was, and whenever I go back there, people think I must drive trains,” she says. “There are so many farm kids who do things like work on machinery and who have great potential, but they don’t even know that they can have a career doing something like this.”

In addition to high school visits, the SAU engineering department hosts several on-campus events for K-12 students from the surrounding rural areas, including a summer camp for junior high children and an engineering carnival for girls in elementary school. The university also partners with several corporations headquartered in the region, including Deere and Company — better known as John Deere — to provide students with engineering mentors and internships, says Prosise.

**Improving Educational Attainment**

An educational nonprofit organization, Project Lead the Way (PLTW) brings career-focused biomedicine, computer science, and engineering education to more than 9,000 underserved schools nationwide — 20 percent of which are in rural areas. For schools enrolled in its programs, PLTW provides grade-appropriate curricula and teacher professional development no matter how remote the school’s location, says
Jennifer Erbacher, senior director of media and public relations.

PLTW also works with higher education institutions and industry partners to ensure that rural schools have the ability to purchase advanced STEM equipment and technologies. With curricula designed by PLTW and classroom resources made possible by partners, low-income rural students are able to perform experiments in DNA testing, design and build robots, and more.

“Our mission is to empower students with the skills they need to thrive in our evolving world,” says Erbacher. “We want them to take the knowledge they’re learning in math and science and use it to solve real-world problems that make that knowledge relevant.”

By making learning exciting, she explains, PLTW improves college readiness and motivates rural students to pursue more rigorous academic experiences. In the small community of Star City, Ark., for example, enrollment in AP courses rose 38 percent after the school district — composed of approximately 1,700 students — introduced PLTW coursework for grades K-12. Electives in biomedicine and engineering were so popular that the high school had to hire additional science faculty, and according to a report by Superintendent Richard Montgomery, PhD, the program has helped create a “culture of expectations” for success.

PLTW has experienced similar progress in Toppenish, Wash., a town of 1,897 residents, where 95 percent of students are minorities and 99 percent receive free or reduced lunches. After introducing PLTW courses to K-12 schools in the area, Toppenish raised its collective graduation rate to 94 percent — an impressive achievement for a town where one-third of parents don’t have a high school diploma.

“Students are able to grasp new concepts … and to see why learning math and other subjects is relevant to and can actually be applied in the real world,” says Arnulfo Gonzalez, a teacher at Toppenish High School.

Recently, PLTW launched one of its largest rural programs, the Rural Spark Project, which involves 27 non-metropolitan Illinois schools. The project, which is funded by the educational nonprofit Astellas USA, is unique in its scope, says Erbacher. “Astellas really wants to put STEM education into targeted rural areas and support teacher training and learning opportunities in classrooms that might not otherwise have the resources,” she says. “It’s really important to us that students get the same opportunities no matter where they live, and the Rural Spark Project helps guarantee that.”

This summer, hundreds of teachers from the project’s participating schools received training and materials to lead the kinds of hands-on, concrete learning experiences PLTW’s success is built on. Studies have shown that these types of activities are particularly motivating for students in rural areas, who find learning more relevant when it’s linked to real-life, problem-solving work.

In addition, a study by the Carnegie Science Center found that STEM disciplines appeal more to rural students and their parents when linked to concrete career opportunities, such as in programs like those facilitated by TSDAP, SAU, and PLTW. Efforts such as these stand to play an important role in rural communities as STEM-based industries like agriscience and telecommunications increasingly need qualified professionals willing to live and work in non-metropolitan areas.

Through these and other STEM outreach initiatives, which make it possible for rural students to connect classroom learning with viable career opportunities close to home, STEM education has the power to transform the educational and career outcomes of rural America.

Mariah Bohanon is a senior staff writer for INSIGHT Into Diversity.
CHANGING THE FACE OF CLIMATE CHANGE SCIENCE

Institutions are beginning to see the importance of engaging all groups in the environmental movement

By Alexandra Vollman
If humans continue burning fossil fuels at the current rate, the Earth’s temperature is likely to rise upwards of 3.6 degrees by 2100 — indicating, according to some scientists, that we are even farther down the path to irreversible climate change than previously thought.

This figure is the result of two separate studies, published in the journal *Nature Climate Change* in late July, which each used different methods yet came to the same conclusion. Despite this knowledge, the potential for addressing climate change from a sweeping legislative or policy perspective seems unlikely due to the increasingly partisan nature of the issue. President Donald Trump has denied the existence of climate change and has supported his claim with deep cuts to research aimed at curbing its effects and a withdrawal from the Paris Agreement on global climate change. All of these factors combined paint a grim picture of the future, one fraught with rising seas, mass extinctions, more wildfires and droughts, harsher tropical storms, and decreased access to fresh water.

Yet, at a time when engaging everyone in the climate change movement is more critical than ever, little is being done to involve racial and ethnic minorities in these efforts. Reaching out to this ever-increasing population could prove to be one of the most viable — not to mention equitable — ways the environmental movement can expand its reach and influence. Adam Pearson, an assistant professor of psychology at Pomona College who has researched the diversity crisis in climate science, blames the underrepresentation of people of color in environmental efforts largely on stereotypes and inaccurate assumptions.

"When we think of environmental science, we may think of someone like Al Gore or a whole slew of other prominent environmentalists who may be white and who are more likely to be male," he says. "We may be less likely to think of someone like Mario Molina, who’s responsible for galvanizing support for international measures to combat ozone depletion."

In fact, people of color make up no more than 16 percent of the workforce at environmental organizations, according to researcher Dorceta E. Taylor, PhD, a professor in the University of Michigan's School of Natural Resources and Environment. In her report *The State of Diversity in Environmental Organizations: Mainstream NGOs, Foundations & Government Agencies*, she refers to this barrier as the "green ceiling," which she says has existed for decades. Specifically, Taylor discovered that people of color comprise just 12.4 percent of staff at non-governmental organizations (NGOs), 15.5 percent at government agencies, and 12 percent at foundations.

Not surprising is the fact that across the fields of science, technology, engineering, and math, and specifically physical and life sciences classifications, minorities are most underrepresented in atmospheric and space sciences, environmental and geosciences, and conservation and forestry, according to the U.S. Census Bureau. One reason for this is the dearth of students of color pursuing these fields.

According to National Science Foundation data, the distribution of bachelor’s degrees awarded to U.S. students in atmospheric sciences in 2014 varied widely based on demographic group: Whites earned 82.6 percent, Hispanics 7.6 percent, African Americans 2.6 percent, Asians 2.2 percent, American Indians or Alaska Natives 0.4 percent, and Native Hawaiians or Pacific Islanders 0.1 percent. For earth sciences, the rates were similar.

This underrepresentation in environmental degree programs and careers, Pearson says, is largely the result of young people of color not seeing professionals in these fields who look like them, as well as the environmental movement’s placing little emphasis on the climate-related issues that most affect minority groups, such as certain health disparities. As this situation continues to perpetuate itself, Pearson says it leads to gross misperceptions.

“If you look at who populates environmental organizations, you might think that certain groups are more concerned about environmental issues than others. … That’s a longstanding belief, a myth that has been held inside and outside of mainstream environmental organizations, and within academia too," he says. “But the data just don’t bear that out. In fact, it’s the exact opposite.”

A 2008 survey conducted by the Yale Program on Climate Change Communication, which examined support for climate change and energy
policies among different racial and ethnic groups in the U.S., found that in many cases, minorities were equally if not more supportive of these measures. Hispanics and African Americans were often the strongest supporters of such policies even if they incurred greater costs as a result. Following the release of the Environmental Protection Agency’s recommendation to label carbon dioxide a pollutant, 89 percent of African Americans were the most likely to somewhat or strongly support this action, while Hispanics were the most likely to strongly support it (40 percent). Overall, 80 percent of Americans supported the regulation of carbon dioxide as a pollutant.

Pearson believes that colleges and universities have a larger role to play in solving the diversity crisis in climate science. Not only should they be doing more to recruit students of color to environmental science fields, but also to discuss the varied impacts of climate change on different groups, he says. “[They need to be] thinking about diversity as an aspect of sustainability — not as something that is separate, but as something that’s fundamental,” he says. “You can’t separate out race, economics, and health and income disparities from [how] you think about or describe environmental or sustainability challenges. They’re all connected.”

Leadership for Sustainability
In the Master of Science in Leadership for Sustainability (MSLS) degree program at the University of Vermont (UVM), acknowledging the interconnectedness of factors such as diversity, power, privilege, and environmental perspectives is a key component of the curriculum. With a focus on creating conditions for all life to flourish, the program strives to prepare its graduates to do the same.

“Sustainability for us is the idea of creating conditions for all life to thrive over the long haul. To us, that’s fundamentally an environmental endeavor as well as a social endeavor,” says Matt Kolan, PhD, director of the program and a senior lecturer in the Rubenstein School of Environment and Natural Resources at UVM. “We believe that to do this effectively requires building reciprocal relationships across all forms of difference and removing and unlearning ideological systems and structures of domination and colonization that continue to perpetuate disparities across cultural identities. Because, over the long haul, our well-being and survival as a species depend on it.”

MSLS is a two-year, low-residency program designed for mid-career professionals from across the country. Through a blend of residential intensives, interactive online courses, professional coaching, and access to a network of professional affiliates, Kolan and his colleagues “attempt to reorganize and rethink leadership and change-making efforts across environmental and social fields,” he says. The focus is not on students’ studying other cultures and their relationship to the Earth, but instead, learning about and developing leadership skills that enable them to work across difference.

“The goal isn’t necessarily to understand and become literate in [different] cultures. Our focus is on the mindsets, heart sets, and skill sets that allow us to be in authentic and reciprocal relationships across those differences,” explains Kolan. “We spend a lot of time talking about the interpersonal skills that are required for us to navigate those power and privilege dynamics … even when there are fundamental differences in belief.
De’Aira Bryant ’17, a National Science Foundation awardee, created an online game featuring a hip-hop robot to spark minority student interest in computer science.

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USC’s College of Engineering and Computing values differences in people, ideas and opinions. Our inclusive climate enables student and faculty success across highly ranked accredited programs.

De’Aira Bryant ’17, a National Science Foundation awardee, created an online game featuring a hip-hop robot to spark minority student interest in computer science.

Kolan and MSLS Program Specialist Emil Tsao say they believe that diversity is not just important in the curriculum but also in the students. And although they don’t actively try to recruit any specific groups to the program, they hope that its unique focus by nature attracts people from diverse backgrounds, perspectives, industries, and
professional experiences. According to Kolan, 43 percent of the incoming cohort identifies as people of color, and they come with all types and lengths of career experiences. “Having that diversity of professional backgrounds adds to the [cohort’s] ability to think more intersectionally,” says Tsao.

For Brown, this exposure to and discussions of diverse backgrounds and perspectives is what makes UVM’s program so powerful. “I’m black, so to understand that a lot of the [information] you get in school is from a very white, Western perspective, it kind of shapes your worldview,” Brown says. “To be able to step out of that context, to read something from a woman [from Calcutta] or a Native American woman who’s trying to get back to her indigenous roots and learning that the world is bigger than George Washington, Abraham Lincoln, and the Western perspective of the world, I think is very important.”

Conservation Scholars

The Doris Duke Conservation Scholars Program (DDCSP) at the University of Washington (UW) recognizes that you don’t have to be a “natural scientist” to engage in environmental and conservation efforts, says Brett Ramey, director of the program.

“Even though we are primarily conservation-based, there are a number of ways people can plug into this work,” he says. “In fact, increasingly we are seeing the need to have multiple lenses looking at the way we engage with land and water so that we can most effectively address all of the challenges we face. That does of course include natural sciences, but it also includes filmmakers, artists, and social scientists.”

Beyond trying to increase diversity in conservation, DDCSP places great emphasis on engaging all segments of the U.S. population, which it hopes to do by seeking participants with a range of hobbies, interests, and skills. In order to expand the environmental movement’s reach — and DDCSP’s — Ramey says they must “find ways to convey critical information about climate change that’s accessible to as many audiences as possible to get as much support and buy-in for solutions.”

“Film ends up being a place for that, photo ends up being a place for that, creating brochures and other informational media in different languages — those are the kinds of things we need to do,” he says, adding that UW’s recruitment efforts have involved promoting DDCSP through attendance at national conferences and encouraging colleagues across the country to share information about the program with their students.

Designed as an eight-week, two-summer undergraduate immersive learning experience, DDCSP explores “conservation across climate, water, food, and ecosystems of the Pacific Northwest,” according to the program’s website. During the first summer, called Classroom-in-the-Field, students — accompanied by instructors and conservation professionals — explore different landscapes in both urban and rural settings to learn about conservation practices and engage in a variety of projects.

This summer, Ramey says participants spent one day exploring tide pools and learning about oyster farming; on another day, they visited waterways around Seattle. “That meant we were seeing places that had been dramatically altered and were thinking about what that meant [for] not only the displacement of salmon, but also for human communities over time,” he explains.

Students spend the second summer as interns on Conservation Practice Teams — an experience designed to help them deepen their knowledge.
and skills, build professional networks, and determine their career path. Working with professionals at government agencies, community organizations, or NGOs, they engage in a research project with several of their peers and mentors. Projects focus on one of three areas: biodiversity conservation, cultural identity, or environmental justice. In the past, topics have included the biological impacts of climate change on mountain ecosystems, hosted by UW’s Department of Biology; Moses Prairie restoration, hosted by the Quinault Indian Nation; and stories of human and ecological adaptation from the immigrant and refugee perspective.

Ramey says that often, students come in with more knowledge of conservation practices than they realized. “[We’ve had students say,] ‘Wow, what I was learning from my abuela, what I was learning from my aunts and uncles about how we’ve lived on the land, … we were enacting conservation — only we didn’t call it that. It was just a way of life,’” Ramey says, adding that DDCSP helps students extract and use the knowledge and skills they already possess.

Diversity to Drive Change
If we are going to make significant gains as a nation toward curbing climate change and preserving the environment, engaging all underrepresented groups in these efforts is imperative, according to Pearson, who has also studied political polarization around climate change.

“If you look at for whom the issue of climate change is most politically polarized, what you find is that it’s not [the same] across all groups in the U.S. It is actually most polarized for more educated, upper-income white Americans,” he explains. “For non-whites or less-educated lower-income groups, you see very little evidence of polarization.”

“From a health and equity perspective, Kolan believes social justice and environmental efforts cannot be thought of as separate, as the people most affected by climate change don’t have a seat at the table. “[We can no] longer separate the health of people and the health of the environment,” says Kolan. “The environmental movement is filled with people who have been the least impacted by some of these structural inequities.”

He admits, however, that a cultural shift is beginning to take place. “What I think we’re seeing is more and more people becoming aware of the importance of addressing these issues in ways we’ve never seen before,” he says.

Indeed, beyond colleges like UVM and UW attempting to recruit diverse communities to environmental fields while working to overcome inequities, others are beginning to see the value in this work as well. Following Trump’s withdrawal from the Paris Agreement, hundreds of cities, states, companies, and higher education institutions came together to sign an open letter to the international community expressing their continued support of efforts to curb climate change. “In the absence of leadership from Washington, [we] will pursue ambitious climate goals,” the letter states, “working together to take forceful action and to ensure that the U.S. remains a global leader in reducing emissions.”

It’s no secret that diverse teams tend to produce the most creative and effective solutions. As Brown points out, ecosystems lacking in diversity experience more problems than those rich with it. In his words, “diversity is natural,” and if we continue down the same, homogeneous path, he says, we’ll only get the same troubling results.

“We need perspectives from every angle possible, from every type of worldview, from every type of religious and spiritual background, and gender orientation,” says Brown. “Because everybody is oriented to the Earth differently, so [our] ideas to [curb] climate change are going to manifest themselves differently.”

Alexandra Vollman is the editor of INSIGHT Into Diversity.
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Position Description: Faculty Position in Teacher Education

The Stanford Graduate School of Education (GSE) seeks to fill a tenure-track, open-rank faculty position in Teacher Education. We welcome applications from scholars with expertise and an active and rigorous research agenda in the field of teacher education, broadly conceived. Candidates’ research and practice should address broad issues of teaching, teacher education, or related policy. Previous involvement in teacher education policy is desirable, especially as it pertains to the preparation of teachers to work with culturally and linguistically diverse student populations.

The successful candidate will be expected to play a leadership role in Stanford’s Teacher Education Program (STEP), among other contributions to the GSE. The candidate will teach courses and advise students within the GSE at the masters and doctoral levels, including courses in STEP. Senior candidates should have a distinguished record of scholarship and teaching. Junior candidates should have completed a doctorate before the date of appointment and show evidence of excellent research and teaching potential.

The GSE faculty represents considerable diversity, including in its theoretical, methodological, and substantive expertise and interests. We seek a colleague who can work effectively within this multidisciplinary community.

All applicants should provide the following:
- a cover letter describing their research agenda, teaching, and other relevant experience
- a curriculum vitae and a list of three references with complete addresses and phone numbers
- 3 scholarly publications

The committee will request letters of recommendation and evidence of effective teaching from a small group of finalists. Online applications are available and highly recommended. Review of applications will begin on September 15th, 2017 and continue until the position is filled. Please apply at http://apply.interfolio.com/42808.

Questions pertaining to this position may be directed to Tanya Chamberlain, Faculty Affairs Officer, tanyas@stanford.edu.

Stanford University is an equal opportunity employer and is committed to increasing the diversity of its faculty. It welcomes nominations of, and applications from, women, members of minority groups, protected veterans and individuals with disabilities, as well as others who would bring additional dimensions to the university’s research and teaching missions.

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Tenured Professor of Latin American Studies

The Massachusetts Institute of Technology’s Global Studies and Languages (GSL) section invites applications for a position in contemporary Latin American Cultural Anthropology at the tenured professor level, to start in Fall 2018 (employment begins July 1, 2018). Applicants must hold a Ph.D. and have five-years’ minimum of academic teaching experience at the college or university level. Preference given to candidates with greater teaching experience and clear evidence of publication and scholarly development.

The teaching load is three courses per year, specifically, mid-tier and upper-level undergraduate courses in GSL (generally, two subjects per year conducted in Spanish, one in English). Native or near-native fluency in Spanish and English is required. Portuguese also desirable.

Applicants should be trained in cultural anthropology with a specialization in contemporary Latin American Studies, and prepared to work in a multidisciplinary environment. Applicants must have significant scholarly work that is already published. MIT expects a highly productive and innovative research program, as part of the requirements for tenure.

Please submit letter of application, CV, two writing samples of peer-reviewed scholarship, preferably at least one book in English, but no more than two books. Spanish language publications accepted. Please also provide two syllabi of undergraduate courses (one taught in upper-level Spanish, one in English) that you would be interested in teaching, to be received no later than October 16, 2017 to: https://academicjobsonline.org/ajo/jobs/9235

If books cannot be submitted electronically, hard copies may be sent to: GSL Search, MIT Global Studies and Languages, Room 14N-305, 77 Massachusetts Ave., Cambridge, MA 02139, USA. Books will be returned after the search.

After the initial review of applications, semi-finalists will be asked to provide three letters of recommendation.

Please send questions to gsl-search@mit.edu.

MIT is an equal employment opportunity employer. All qualified applicants will receive consideration for employment and will not be discriminated against on the basis of race, color, sex, sexual orientation, gender identity, religion, disability, age, genetic information, veteran status, ancestry, or national or ethnic origin.

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Assistant Professor of Earth and Planetary Sciences

Job Opening ID 37221

The Department of Earth and Planetary Sciences at Washington University in St. Louis invites applications for a tenure-track Assistant Professor position in the field of surface hydrology. The candidate is expected to perform basic research in hydrologic processes at and near Earth’s surface. Areas of interest include but are not limited to fluvial, lacustrine, and/or estuarine systems, fluvial geomorphology and sediment transport, flooding, and relationships to ecological and climate systems. The ideal candidate will employ quantitative tools and will integrate computational approaches with direct and remotely sensed observations.

The successful candidate is expected to develop a vigorous, externally funded research program, maintain a strong publication record, advise students, provide outstanding teaching over a broad range of undergraduate and graduate courses, and participate actively in departmental governance and university service. We seek candidates who will strengthen existing research programs in geology, climate science, and remote sensing, as well as foster collaboration with scholars across the Washington University community.

Candidates must have a Ph.D. in Earth science, or a related field, at the time of appointment. Complete applications include a cover letter, curriculum vitae, statements of teaching and research interests, and the names and contact information of at least four references as a single PDF, and should be sent to Professor Philip Skemer, Hydrology Search Committee Chair, Department of Earth and Planetary Sciences, Washington University, Campus Box 1169, 1 Brookings Drive, St. Louis, MO 63130, or via e-mail: hydrologysearch@eps.wustl.edu. Applications must be received by October 15, 2017 to ensure full consideration.

Washington University is an Equal Opportunity Employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, age, sex, sexual orientation, gender identity or expression, national origin, genetic information, disability, or protected veteran status.
For the third straight year, Alabama Astrobotics, a student robotics team at the University of Alabama, took first place at the NASA Robotic Mining Competition for its robot design (pictured above). Named MARTE (Modular Autonomous Robotic Terrestrial Excavator) 2017, it is capable of navigating and excavating simulated Martian soil — also called regolith — and features a bucket ladder excavator, an offloading conveyor belt, and lidar sensors and lasers to measure distance. NASA may use this technology, along with that of the 45 other participating institutions, to mine resources on other planets.

Alabama Astrobotics placed in the top three slots in each of the contest’s nine categories, taking first place in five of those. With more than 60 students from eight disciplines, including engineering and computer science, Alabama Astrobotics is the only team to place first in more than one category in the competition’s eight years. For earning the most points, the team received $10,000 to put toward the development of next year’s robot.
The Lake Erie College of Osteopathic Medicine is shaping the next generation of caring and compassionate healthcare professionals. LECOM is a leader in providing opportunities to all ethnic groups and ranks in the top ten in granting the most osteopathic medicine degrees and certificates to Hispanic students;* and sixteenth in total minority professional doctoral degrees conferred.**

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• experience a wide variety of student-centered pathways on their way to a career in healthcare;
• learn from recognized experts in their fields; and
• receive a surprisingly affordable medical education; prepared to meet the highest standards for a career in osteopathic medicine, pharmacy or dentistry.

At a time when health care is fundamentally changing, LECOM continues to build healthier communities, one graduate and one patient at a time.

To learn more visit [LECOM.edu](http://LECOM.edu).

* According to *Hispanic Outlook K-12 Magazine*
** According to “Diverse: Issues in Higher Education” 25th annual “Top 100 Degrees Conferred” list
For one recent alumna, finding an appreciative space meant following a road right into STEM-based doctoral research.

For Chanda Lowrance, taking a condensed five-week chemistry immersion course helped her change majors and her life. She became a Denver Metro Chem Scholar, and will begin her doctoral studies in physical chemistry this fall.

She credits her success to the financial, educational, and personal support of Metropolitan State University of Denver for students of color who plan to seek degrees in STEM-related fields. And with the upcoming launch of the new Aerospace and Engineering Sciences Building, MSU Denver is doubling down on its commitment to transformational opportunities for all students.

Lowrance is just one example of how MSU Denver has been transforming lives. Located in the heart of urban Denver, we’re the leader in diverse enrollment among Colorado’s four-year universities with 7,812 students of color. At MSU Denver, we celebrate that each person’s road is different. Where will yours take you?