

TEARING DOWN WALLS

STEM group's first-generation CEO urges members to build their careers upon one-on-one relationships

Jeffrey G. Harris, MBA & Richard A. Skinner, PhD

The push to build a wall along the United States' southern border ignited a fierce debate that shows no signs of abating. Is the envisioned 2,000-mile barrier a bulwark against crime, social upheaval, and the displacement of American workers — or an ill-advised, inhumane, and economically counterproductive affront to our nation's core values?

Given the geographical and philosophical turf on which the debate is being waged, one might expect to find Raquel Tamez front and center. After all, she's (1) a Texas native who spent the bulk of her career in the state, (2) a longtime student of public policy and business, and (3) an attorney with more than 20 years' experience in federal regulatory enforcement and cross-border commerce, with a specialization in technology.

What's more, Tamez almost certainly has strong opinions on the matter — inasmuch as she's the successful youngest child of a migrant farm worker who immigrated from Mexico in hopes of giving his family a better life.

For the time being, though, the self-styled “feisty Latina” — more on that later — is busy battling two other, arguably bigger “walls,” both of which have been separating people from their dreams for generations. Those barriers: the insidious biases that too often obstruct the educational and professional advancement of up-and-comers from historically underrepresented populations and the

sociocultural limitations that such individuals impose upon themselves, usually for lack of experience, guidance, and/or confidence.

Tamez is 2½ years into her tenure as chief executive officer of the Society of Hispanic Professional Engineers, or SHPE, which bills itself as the nation's largest member association for Hispanics in STEM (science, technology, engineering, and math).

“I'm so grateful — and really honored and privileged — to serve in the capacity of CEO of this organization,” Tamez said in a just-released edition of the higher-education podcast *Innovators*. “SHPE has tremendous potential.”

SHPE (pronounced “ship”) was established in 1974 by six engineers who worked for the city of Los Angeles. The goal of the group, which initially met in a garage in East L.A., was to provide Southern California's large and growing Hispanic community with something it sorely needed: professional role models.

The nonprofit organization is still headquartered in the greater Los Angeles area, but with more than 11,000 members in some 270 student and professional chapters across the United States, SHPE now boasts a truly national footprint — and an even broader mission statement: “SHPE changes lives by empowering the Hispanic community to realize its fullest potential and to impact the world through STEM awareness, access, support, and development.”



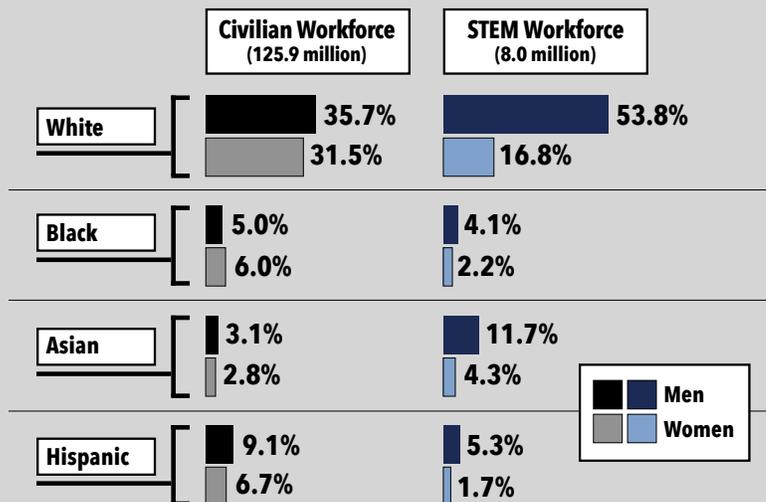
LISTEN IN



Raquel Tamez, CEO of the Society of Hispanic Professional Engineers (SHPE), talks about the value of role models and mentors in the latest edition of the higher-education podcast *Innovators*. The audio series, presented by Harris Search Associates, is available on the web at harrisandassociates.com and on leading podcast platforms such as Apple Podcasts, Libsyn, Google Podcasts, Stitcher, and Spotify.

Hispanics remain underrepresented in U.S. STEM sector

Hispanic workers have emerged as a major force in the American economy, but they're still lagging in the nation's fast-growing tech sector, according to a recent analysis by the U.S. Census Bureau. Although Hispanics occupy 15.8 percent of all civilian jobs, they hold just 7 percent of STEM positions. The employment gap is particularly pronounced for Hispanic women. Blacks are also underrepresented, occupying just 6.3 percent of STEM positions, while whites and Asians are both overrepresented in the sector — at 70.6 percent and 16 percent, respectively.)



Source: U.S. Census Bureau

“I oftentimes say that SHPE has been ‘doing STEM’ for 45 years,” Tamez said. “We’re not doing STEM because it’s the new shiny thing and it’s what pays. We *have* changed lives — tens of thousands of lives.

“It’s pretty incredible.”

Despite gains, hard work remains

Make no mistake: Tamez and her leadership team at SHPE are nowhere close to declaring victory in the fight for racial, ethnic, and gender equity and equality in the STEM workplace. They know the numbers.

An analysis released in February by the U.S. Census Bureau confirms that Hispanics remain woefully underrepresented in the nation’s STEM workforce.¹ Although Hispanics make up 15.8 percent of the United States’ civilian workforce, they account for just 7 percent of Americans employed in the STEM sector. (Blacks are also underrepresented, occupying just 6.3 percent of STEM positions, while whites and Asians are both overrepresented in the sector — at 70.6 percent and 16 percent, respectively.)

According to the report, Hispanic women have the most ground to make up. Although they occupy 6.7 percent of jobs in the overall workforce, they hold just 1.7 percent of positions in the STEM fields. (Hispanic men, in comparison, account for 9.1 percent of all civilian workers and 5.3 percent of individuals employed in the tech sector.)

To be clear, more and more Hispanics — men and women alike — are pursuing STEM careers. It’s just that their numerical gains have been offset by an even bigger surge in overall STEM employment — the upshot of advancing technology and the United States’ transition to an information-based economy.

“Since 1990,” the Pew Research Center noted in a 2018 study, “STEM employment has grown by 79 percent, and computer jobs have seen a whopping 338 percent increase over the same period.”²

As “whopping” as that expansion may have been, the sector is expected to grow even faster over the next five years.

Deloitte and the National Association of Manufacturers project that the U.S. economy will create 3.5 million additional STEM jobs by 2025 — more than 2 million of which will go unfilled because of a shortage of qualified candidates.³

Some industry watchers might view such figures as a cause for alarm or, worse yet, retrenchment. Tamez, in contrast, sees them as a challenge, a *surmountable* challenge — and therefore an opportunity.

“I’m cautiously optimistic that the future is bright for Hispanics,” she said. “Hispanics are poised to significantly bridge the need for more STEM professionals. Hispanics can be the answer, the solution, to current STEM demands and the current STEM gap.”

‘Majority minority’ can’t be ignored

Tamez’s optimism stems in part from the sheer economic heft of the United States’ Hispanic demographic. With their numbers approaching 59 million people — or 18 percent of the nation’s overall population — Hispanics simply can’t be ignored.⁴

“Hispanics are going to be — they are, in fact, now — the ‘majority minority,’ and so there is a business imperative on the part of corporate America and agencies in federal and state government, as well as other organizations,” she said. “It’s not just, ‘Hey, let’s do the right thing and go and diversify and make our workplaces more inclusive.’ There’s a business imperative for diversifying and including Hispanics across the board. It’s a *future imperative*.”

Tamez said she’s also encouraged by two trends within the Hispanic community: improving high-school graduation rates and rising postsecondary enrollment rates.

In 2006, according to the National Center for Education Statistics, a branch of the U.S. Department of Education, the high-school dropout rate among Hispanics was 21 percent. By 2017, the rate had fallen to 8.2 percent.⁵



The Society of Hispanic Professional Engineers (SHPE) seeks to offer something for every STEM aspirant, regardless of age, skill level, or experience. Middle-school and high-school students, for example, can secure the benefits of membership for a yearly fee that works out to less than 10 cents a week. Industry veterans, on the other hand, are probably more likely to be drawn to the organization's roster of corporate partners, a veritable who's who of global tech titans, including Amazon, Cisco, Google, and IBM.

Founded: 1974

Headquarters: City of Industry, California

Leadership: Chief Executive Officer Raquel Tamez; Chief Operating Officer Chris Wilkie; Chairman of the Board Miguel Alemany, Procter & Gamble; Vice Chair Michael Gutierrez, Lockheed Martin Aerospace; Secretary Will Davis; Treasurer Ernesto Felix, Intel Corporation

Members: 11,000 (approx.)

Chapters: 270 (approx.)

Mission: "SHPE changes lives by empowering the Hispanic community to realize its fullest potential and to impact the world through STEM awareness, access, support, and development."

Vision: "SHPE's vision is a world where Hispanics are highly valued and influential as the leading innovators, scientists, mathematicians, and engineers."

Values: Familia, Service, Education, and Resilience

Major programs: *latinXfactor*, a series of instructional webinars; *Noche de Ciencias*, a community outreach effort featuring hands-on "Science Night" workshops for students and their families; *SHPEtinias*, a skill-building initiative targeting female members; *MentorSHPE*, a program that matches students with academic and professional mentors; *ScholarSHPE*, a scholarship program that awards more than \$350,000 annually; national convention and regional conferences



SHPE

"That's a dramatic improvement," Tamez noted.

Better still, the plummeting dropout rate among Hispanic high-schoolers has been accompanied by a commensurate spike in postsecondary matriculation.

"The growth in college enrollment among Hispanics has been especially pronounced in the last decade," the U.S. Census Bureau noted in a 2017 report. "College enrollment went up by 1.7 million from 2006 to 2016, compared to a 700,000 increase the previous 10 years, an overall tripling of Hispanics in college over the past 20 years."⁶

Getting Hispanics through high school and into college is an essential step in growing Hispanics' representation in the STEM fields, but it's by no means the *only* step, Tamez said.

As far as SHPE is concerned, the process has to start long before Hispanic young people enter high school and continue well beyond the placement of Hispanic professionals in their first jobs.

Biggest challenges vary by life stage

For young Hispanics and their families, the two primary barriers are "awareness and access," Tamez said.

"In some instances — in first-generation families, for example — Hispanic parents and families might have heard of STEM, and they might understand that it's important, but they may not necessarily know all of the different opportunities and possibilities there.

"And then there's the question of access: How do you get to STEM — to STEM studies, jobs, careers?"

SHPE is seeking to narrow the knowledge gap through *Noche de Ciencias*, a national program in which volunteers from the organization's professional and university chapters hold "Science Night" workshops to introduce young Hispanic students and their families to the "magic of STEM." More specifically, the hands-on programs are designed to increase participants' awareness of various STEM fields and careers, to instill in participants the belief that they can succeed in such pursuits, and to nurture a "sense of STEM identity," or community, that can help sustain participants in their future endeavors.

The workshops also serve as primers on the nitty-gritty of higher education: how to assemble a college application, how to solicit letters of recommendations, how to secure financial aid, how to find merit-based scholarships and grants, etc.

"Hispanic families are hesitant to take out big loans, and the financial-assistance process is daunting," Tamez said. "If you're first generation, you may not necessarily have parents that have the knowledge and experience to be able to navigate that."

Once Hispanic students gain admission to college and head off to campus, SHPE essentially goes with them — in the form of ongoing support and encouragement.

"Once they're at university," Tamez said, "the issue that we need to address is 'persistence,' which is an academic term: Are the students actually graduating, first and foremost, and are they graduating with a STEM degree?"

Obstacles at the university level might be academic, financial, and/or emotional. The premium that Hispanics place on family unity, for instance, can make Hispanic college students particularly susceptible to homesickness.

“That’s where SHPE comes in with its chapters,” Tamez said. “We provide that 360 (degree) support. We’re that *familia* away from *familia*.”

In working with college students nearing graduation and newly minted professionals, SHPE stresses the importance of personal connections — and the doors they might open.

Tamez noted that without a support network, a newcomer to the workforce can feel lost, especially if the newcomer is a Hispanic entering the predominately white tech sector.

“I’m not going to say there’s a complete lack of confidence,” she said, “but, sometimes, your confidence can be shaken (when you enter school, or you enter a workplace, and you don’t see people that look like you. You might feel like an outsider because there’s a lack of effective mentors and sponsors and role models.”

Tamez acknowledges that the STEM sector is — or *should be* — the consummate meritocracy. Success in the lab is determined by tests, not testimonials; by computations, not connections; by results, not references. As long as humans oversee the hiring and promotion process, however, relationships, recommendations, and referrals are bound to play a role, she said.

“One of my mentors told me once upon a time that relationships are the currency of the workplace, and I absolutely believe that,” she said. “You can be a darned good engineer or scientist, but it’s the relationships that you have that will support you and take you to that next level. It really is about who you know and who knows you.

“Mentors, sponsors, role models — they’ll be there, ideally, to help navigate what are oftentimes very complex career pathways.”

CEO preaches what she practiced

Tamez knows firsthand just how important a support network can be.

She’s quick to point out that she has been buoyed by countless mentors, both formal and informal, ever since she was a high-school student — if not longer. Indeed, her staunchest backers and most influential role models have been at her side from the very beginning.

“It starts with my father who immigrated with my mother from Mexico,” she said. “My dad was a migrant farm worker. I learned my work ethic and values like integrity and honesty from both my parents, but (especially) my father. He indulged my curiosity growing up, and he has always made me feel invincible.



“One of my mentors told me once upon a time that relationships are the currency of the workplace, and I absolutely believe that.”

“That was so important, I think.”

That sense of invincibility propelled Tamez from a Houston barrio to the University of Texas at Austin, where she earned a bachelor’s degree in government and business, and then to St. Mary’s University School of Law in San Antonio, where she received a juris doctorate.

It carried her into the legal profession — first as a solicitor with the U.S. Department of Labor, where she squared off against employers violating federal wage and workplace-safety regulations — and later as in-house counsel for several Fortune 500 companies. Among them: Mary Kay, the global cosmetics seller; ACS, an IT services provider affiliated with Xerox; and CSC, a multinational IT conglomerate that eventually would become DXC Technology.

Tamez’s upbringing also prepared her for the occasional bump in her career path — by arming her with the resilience necessary to turn seemingly negative experiences into opportunities for growth, or at least occasions for reflection, redefinition, reinvention, and, if necessary, redirection.

One of the biggest “setbacks” came in early 2017, when Tamez was general counsel and chief legal officer for a national non profit that creates employment opportunities for persons with significant disabilities. Tamez was flying high — until the once-unthinkable happened: She was let go.

Although the separation was unrelated to her job performance, it was a blow.

Instead of succumbing to self-doubt or wallowing in self-pity, though, Tamez set out to “rebrand” herself — with input from her personal “board of directors,” a close circle of trusted advisers and confidants.

“A setback is not contagious, It should not be taboo,” she said in a 2017 interview with *Hispanic Executive* writer Zach Bailva. “Let’s get it out in the open, have healthy, messy discussions about it, and help each other out.”⁷

The displaced executive, already an accomplished runner, mountain biker, powerlifter, and certified Pilates instructor, also decided to get serious about swimming — to test her self-discipline more than anything.

Within a few months, Tamez had secured multiple offers and landed another job — her current position with SHPE.

Before she assumed her new role, Tamez encountered an entirely different sort of challenge — a threat not to her income but rather to her self-image. An executive she worked with called her a “feisty Latina.”

“It took me aback because of the context — how it was said, when it was said,” Tamez told Kathy Kantorski, another writer with *Hispanic Executive*, last year. “It was meant to be derogatory. I’m hardly ever speechless, but I didn’t know how to respond. I was in a state of shock.”⁸

The “feisty Latina” label gnawed at the normally unflappable Tamez until a longtime mentor suggested that she “lean into” it — that is, embrace “feisty Latina” as a source of empowerment, not embarrassment.

“I gave it a lot of thought, and I decided that, yes, I’m going to be that feisty Latina. I am going to fight and advocate for what’s right,” Tamez told Kantorski.

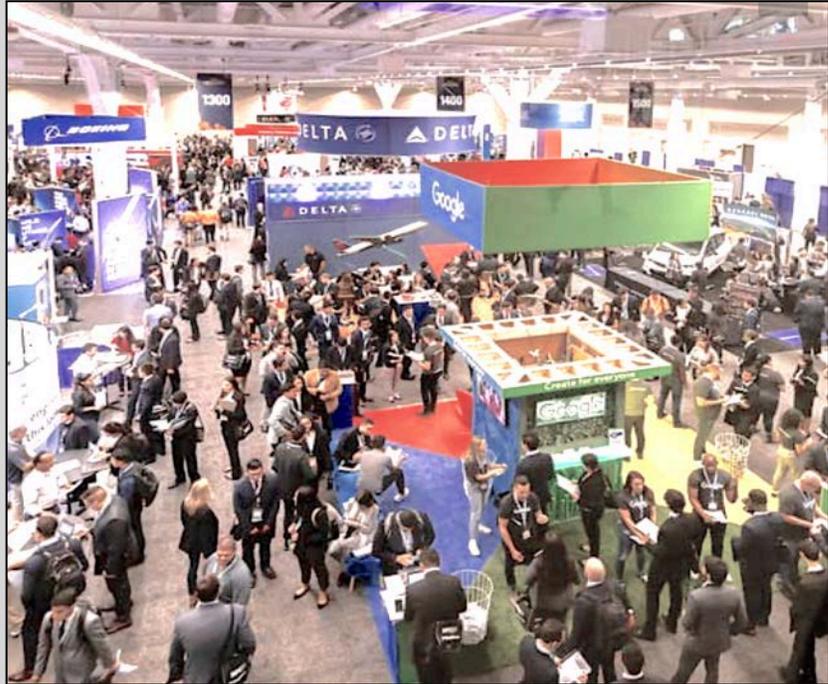
“It brings me back to why I decided to go to law school in the first place: justice, equality, and fairness — and just doing the right thing.”⁹



SHPE

'Game-changing event'

The Society of Hispanic Professional Engineers' 43rd national convention — five days of seminars, exhibits, award ceremonies, job interviews, and networking sessions — attracted a record 9,500 registrants and 620 employers, including 40 Fortune 100 companies. Boeing alone reportedly extended 180 employment offers.



SHPE

STEM's 'best-kept secret' is out

These days, doing the right thing means supporting Hispanic men and women in their quests to become respected engineers, computer scientists, and innovators.

Tamez can't help feeling that it's a mission for which she spent a lifetime preparing.

"I grew up in the 'hood,'" she told Kantorski. "I got out of the hood through education, and here's an organization that's supporting students and young professionals in STEM. Had I not had well-intentioned mentors and assistance along the way, I don't know where I'd be.

"If I can help facilitate the same for others, I'm going to do it."¹⁰

SHPE appears to be thriving under Tamez's leadership.

"Over the last two years, we've been able to grow exponentially and to break all sorts of records — in membership, in attendance, in sponsorship, in social media presence, and, most importantly, in member engagement," she said. "We're on fire right now, and I do have a sense of urgency for this organization.

"We can no longer be the best-kept secret in STEM."

She needn't worry about that.

This fall, the organization drew a record 9,500 registrants to its 43rd national conventional in Phoenix, Arizona — five days of seminars, exhibits, competitions, award ceremonies, job interviews, and networking sessions, not to mention a long list of fun activities designed to create that "sense of *familia*." More than 620 employers, including 40 Fortune 100

companies, set up recruiting booths, and, according to Tamez, "hundreds" of SHPE members walked away with "amazing jobs and very cool internships." Boeing alone reportedly extended 180 employment offers at the event.

The turnout caught the attention of multiplatform media outlet AL DÍA, which highlighted the convention in a story bearing the headline "Latino professionals will play a key role in the future of the U.S. workforce — and corporations know it."

The author of the piece, AL DÍA CEO and Editor in Chief Hernán Guaracao, wrote, "The images of a career fair flooded with thousands of applicants, and hundreds of corporations eager to interview and recruit them, was a genuine glimpse at the current transformation of the labor market in the U.S."¹¹

Tamez's assessment of the convention was a bit more succinct: "It wasn't just successful; it was a *game-changing* event."¹²

So where does SHPE go from here?

Galvanized by its recent membership growth, its job-placement success, and its heightened profile in the STEM sector, SHPE will, in all likelihood, continue to expand and evolve, continually fine-tuning its programs, services, and resources to meet the needs of members and key stakeholders.

It's a safe bet, however, that as long as Raquel Tamez is SHPE's chief executive, one thing *won't* change: the organization's emphasis on mentoring, role modeling and person-to-person networking.

After all, as far as Tamez is concerned, success is all about building bridges — or tearing down barriers, real or artificial — one relationship at a time. ■

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About the *Innovators* podcast

The *Innovators* podcast features timely conversations with global thought leaders in the areas of higher education, research, engineering, technology, and the health sciences. The audio segments, which give listeners an opportunity to learn from national leaders who are changing the landscape of innovation and discovery, are available on the web at harrisandassociates.com and on leading podcast platforms such as Apple Podcasts, Libsyn, Google Podcasts, Overcast, Stitcher, and Spotify.



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Jeffrey G. Harris is founder and managing partner of Harris Search Associates. He is an active member of CUPA-HR, the American Council on Education (ACE), the American College of Healthcare Executives (ACHE), and the Executive Search Roundtable, an association of professionals dedicated to the development of best practices in higher education talent recruitment. Mr. Harris holds a bachelor's degree from Ithaca College and an MBA from the University of Dayton.



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