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CHEERLEADERS**

GIVE ME AN S FOR STEAM!

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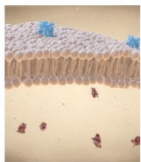
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Breaking the Stereotype, One Cheer at a Time

It may be unfortunate but this is a stereotype we're all familiar with – you know, the one where a woman can't possibly be smart and pretty, too? In movies, TV shows and books, cheerleaders appear to be the ones most often typecast with this narrative, which has somehow in our society become synonymous with being "an airhead, a bimbo or brainless."

Our cover story this month, the Science Cheerleaders, are committed to banishing this stereotype. This nonprofit organization of current and former professional and collegiate cheerleaders are not just shaking their pom-poms and performing at NFL and NBA games. They're also pursuing degrees and careers in chemical biology, molecular physics and biochemistry, just to name a few.

The SciCheers are also paving the way for a younger generation starting to see themselves in a whole new light, according to Samantha Marsillo, director of operations for the Science Cheerleaders, engineer and former Arizona Cardinals cheerleader. "Almost every time a girl realizes that I am an engineer and former pro-cheerleader, I can see the light bulb going off in their minds. I know the moment they all of a sudden believe in themselves that maybe one day, they can be a scientist or engineer and also a cheerleader, and it's one of the most rewarding feelings." Read more on how the Science Cheerleaders are inspiring our future STEM leaders on page 30.

Give a cheer – it's almost a new year! And if getting a job is on your list of resolutions, you may want to check out our article on "Revamping Your Resume for the New Year" on page 40. Need to brush up on your interview skills? Read "Follow These 6 Unwritten Rules of Interviewing to Land Your Next Job" on page 50 to get some great tips. And if you're already in school or thinking of going back, the "6 STEM Scholarships You Should Know About" on page 78 can help finance your journey.

As we move into 2023, take a page from the Science Cheerleaders and don't be afraid to break stereotypes. Because as they so aptly illustrate – if you can believe it, you can achieve it.



Kat Castagnoli

Kat Castagnoli

Senior Managing Editor, *Diversity in STEAM Magazine*



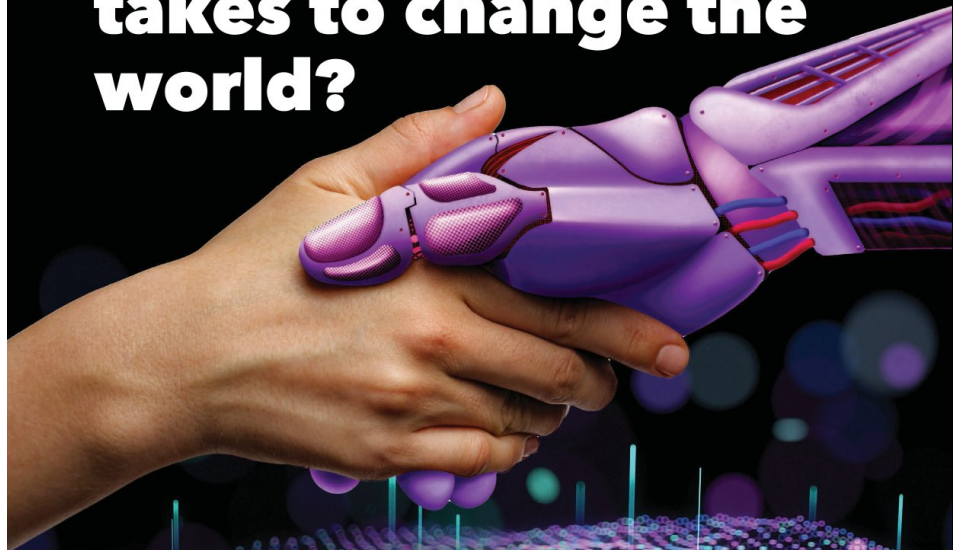
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Science Cheerleaders - Give Me an S for STEAM!

By Brady Rhoades



Science Cheerleaders taking photos with Pop Warner cheerleaders at the 2021 Pop Warner National Cheer & Dance Championships.

Theresa Oei is a former cheerleader for the New England Patriots. She's also a PhD candidate in chemical biology at Harvard University.

Kayla Rossel formerly cheered for the San Francisco 49ers. After getting a Psy.D. in clinical psychology, she works as a psychologist specializing in eating disorders.

Tynesha McClain has a B.S. in chemistry with a minor in mathematics from James Madison University. She's a food technologist who's cheered for the Baltimore Ravens, Baltimore Blast and Chesapeake Bayhawks.

Cheerleaders who are STEAM professionals?

It bucks stereotypes, but guess what? It's the norm.

There are Science Cheerleaders on every NFL and NBA team that employs cheerleaders.

These multi-skilled women are the heart and soul of Science Cheerleaders, Inc., a national nonprofit organization of current and former, professional and collegiate cheerleaders who have both degrees and careers in science, technology, engineering and math.

"Almost every time a girl realizes that I am an engineer and former pro-cheerleader, I can see the light bulb going off in their minds. I know the moment they all of a sudden believe in themselves that maybe one day, they can be a scientist or engineer and also a cheerleader, and it's one of the most rewarding feelings," said Samantha Marsillo, director of operations for the Science Cheerleaders, engineer and former Arizona Cardinals cheerleader.

Marsillo teams with company founder, Darlene Cavalier, who co-authored *The Field Guide to Citizen Science*, and Dr. Wendy Brown, who is the director of outreach for the SciCheers, a Biomedical Engineer and former cheerleader for the Oakland Raiders, Sacramento Kings and Atlanta Falcons.

High Kicking the Stereotype

The concept: Science Cheerleaders playfully challenges stereotypes about cheerleaders and women in STEAM. The organization aims to connect with the nation's four million youth cheerleaders through a shared interest in cheerleading while changing perceptions about who scientists are, what they do and who can pursue careers in STEAM.

Leveraging the popularity of sports and cheerleading, Science Cheerleaders reach not only girls but also their families and sports fans. Some teams, such as the San Francisco 49ers, New England



1

1: Science Cheerleaders at the USA Science & Engineering Festival.

2: Dr. Wendy Brown, PhD, director of outreach for Science Cheerleaders, on the field and in the lab.

3: Science Cheerleader Taylor Hooks collecting microbe samples for Project MERCURI with Pop Warner Cheerleaders.



3

Patriots, Atlanta Falcons and Washington Commanders, feature dozens of cheerleaders pursuing STEAM careers.

The Science Cheerleaders facilitate in-person and online events, where cheerleaders perform STEAM-themed choreographed routines, lead hands-on science activities, hold meet and greets, autograph trading cards featuring their STEAM and cheer stats and host cheer workshops. Events range from small, rural locations to nationwide events, such as performing at halftime during a Philadelphia 76ers game and at the USA Science &

Engineering Festival in Washington, D.C.

Brown was one of the lead researchers for Project MERCURI (Microbial Ecology Research Connecting Citizen and University Researchers on the International Space Station (ISS). Her team enlisted the help of 4,000 cheerleaders and sports fans to swab shoes and cell phones for microbes at games and other Science Cheerleader events. This was part of a research and citizen science project to learn if and how microbes grow differently in microgravity than on Earth, which is important to understand for long-duration human spaceflight.



www.sciencecheerleaders.org
Inspire! Engage! Empower!

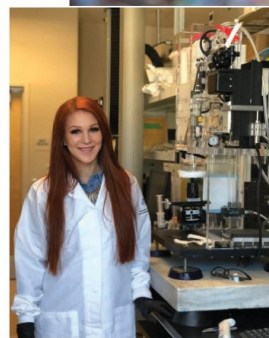
Tynesha
CHEMISTRY
PATENT EXAMINER

Those microbes were analyzed by UC Davis and 48 samples were launched on a Space X rocket to the International Space Station. In a delightful surprise, a Pop Warner cheerleading team discovered a previously unknown species of microbe while working on the project.

The Science Cheerleaders organization, who works with Girl Scouts across the country, created a special cheer for Scouts:

Mighty Girl Scouts

We are the Girl Scouts
The mighty mighty Girl Scouts



2



www.sciencecheerleaders.org
Inspire! Engage! Empower!

Samantha
ENGINEERING
PROJECT MANAGER

And we! Love! Science!
Millions of sisters

We're just like a team
Nothing will stop us

From reaching our dreams!
Goooo science!

To see a video of the cheer, visit youtu.be/sWNbPySPOM.

Give Me a D for Diversity!

There's more fun stuff.

"We organized a massive cheer for science at the USA Science & Engineering



www.sciencecheerleaders.org
Inspire! Engage! Empower!

Theresa
CHEMICAL BIOLOGIST

Festival, where representatives from the U.S. Geological Service (USGS) were present to take seismic readings during the cheer, while hundreds of classrooms across the country performed the cheer and used sensors to measure seismic activity," said Cavalier. "While that was designed for fun, all of those classrooms became part of a long-term study with USGS to monitor tremors for years to come."

Both science and cheerleading are becoming more inclusive and diverse, not only onboarding women but ethnic minorities. But the progress is slow.

Women make up 27 percent of STEAM workers in the country, up from eight percent in 1970, according to the U.S. Census Bureau. Forty-eight percent of workers in the life sciences are women, but only about 15 percent are engineers.

African-Americans comprise nine percent of workers in STEAM; Hispanics are at eight percent, according to the STEM Education Guide.

Said Science Cheerleader McClain:

"Diversity has grown leaps and bounds in cheerleading and STEAM. It's refreshing to see so much representation in these areas. I'm envious of the youth today, as I wish I had that type of exposure when I was growing up."

Science Cheerleader Rossel concurs.

"As an African-American woman, it makes me happy to see that more cheerleading teams are celebrating young Black women's natural and cultural hairstyles," she said. "It's very important for young girls to see diversity and to be able to identify with cheerleaders who have similar hair textures and styles. In terms of diversity in STEAM, some STEAM fields are more diverse than others."

'I Knew I Could Do Both!'

So, what's next for the nonprofit?

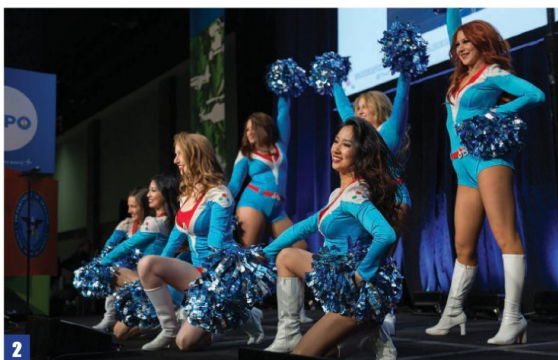
"COVID put a pause on all in-person activities, but we look forward to re-activating programs in 2023, including performances at the USA Science & Engineering Festival in Washington, D.C.; performances at Girl Day at the University of Texas, Austin; performances and meet-and-greets at the Pop Warner Cheer & Dance National Championships in Florida and at the Super Bowl in Arizona," said Marsillo. "In addition, we are in the process of coordinating appearances scheduled to take place at many science festivals across the country. We've applied to be part of the Macy's Thanksgiving Day Parade, which will be such an honor for us."

For many Science Cheerleaders, the best part of the job is seeing the reaction of young people.

"Surprisingly, girls sometimes react with something akin to, 'I knew I could do both!' I absolutely love serving as an example that affirms girls' interests in science and cheerleading," Brown said.

Marsillo added, "So many girls give up one passion for the other, and we're here to show them that they don't ever have to make that sacrifice."

For more information about the Science Cheerleaders, visit sciencecheerleaders.org.



1: Science Cheerleaders on the main stage at the 2021 Pop Warner National Cheer & Dance Championships.
2 & 3: Science Cheerleaders at the USA Science & Engineering Festival
4: Science Cheerleader Tynesha McClain (a former cheerleader for the Baltimore Ravens) with a Pop Warner cheerleading team, also called the Ravens, at the 2021 Pop Warner National Cheer & Dance Championships.