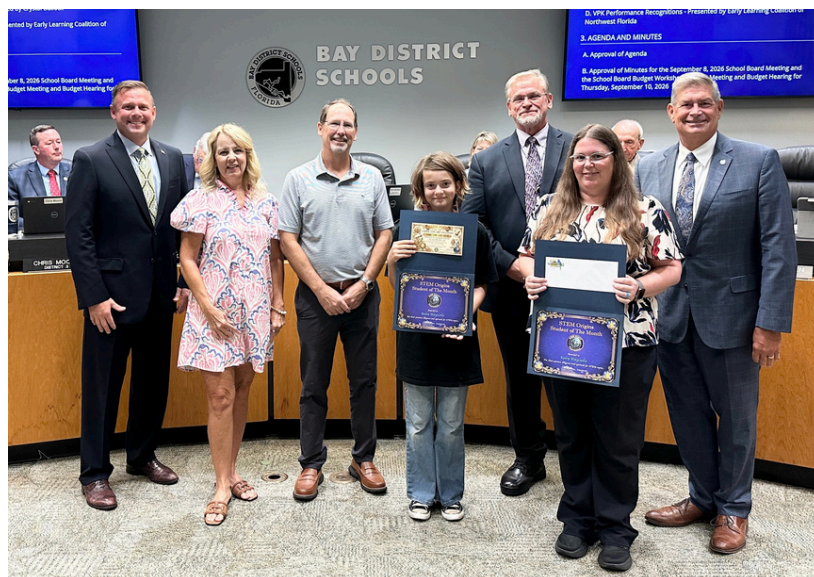




ORIGINS

STEM Origins Foundation

October 2026



Keira Waycuilis: Student of the Month

Every month of the school year, we select a STEM student in recognition of those who most reflect our core values of Passion, Diligence & Aptitude for STEM, while also demonstrating Collaboration with others.

Our September STEM Student of the Month is **Keira Waycuilis**, a 5th grade student from Merriam Cherry Street Elementary School. She was presented with a STEM Student of the Month medal, an award certificate, a Margaritaville Restaurant, and a Golden Ticket to STEM Camp at GCSC.

Thanks to a generous donation from one of our STEM supporters, each "STEM Student of the Month" recipient in the 26-27 school year will

also receive a "Golden Ticket" which entitles him or her to a STEM Summer Camp scholarship at Gulf Coast State College for summer 2027.

Keira was nominated by her teacher, **Tiffany Hunyady**, who also received a gift card to the Margaritaville Restaurant at Pier Park to acknowledge her role in Keira's success.

Ms. Hunyady described Keira as a passionate and curious STEM student who eagerly explores concepts beyond the basics. Keira consistently demonstrates a strong work ethic, approaching challenges with patience, focus, and determination while always giving her best effort.

Keira also has a natural talent for engineering, using a logical,

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hands-on approach and sharp analytical thinking to solve problems.

As a team member, she brings people together, communicates her ideas clearly, listens respectfully to the ideas and advice of others, and helps weave those contributions into strong final projects.

Her ability to collaborate, lead, and encourage her teammates makes her a valued member of the team and a student who inspires those around her.

Why We Lose Students in STEM

As students progress through their academic journeys, maintaining an early interest in science, technology, engineering, and math (STEM) becomes an increasingly uphill battle. Data reveals a troubling national trend: a significant number of American students lose interest in STEM fields during the 6th grade, a decline that steadily continues all the way through high school. This attrition does not impact all groups equally; the majority of young women and minorities who exit the STEM educational pipeline do so during this pivotal transition to middle school.

According to extensive academic research cited in the report, the 6th grade represents a "perfect storm" driven by three distinct psychological and environmental factors that push students—especially girls—away from STEM disciplines.

1. The Stereotype Threat

By the time girls reach the age of 11, they become acutely aware of deep-seated societal biases and internalize the traditional "geeky male" stereotype associated with STEM fields. Research by Master, Cheryan, and Meltzoff (2016) demonstrates that this environmental activation of gender stereotypes severely undermines a young girl's sense of belonging just as she enters middle school, making her feel as though she simply does not fit into the STEM community.

2. Identity Conflict

The transition to middle school triggers an intense psychological shift where students prioritize social hierarchies and social belonging above almost everything else. Unfortunately, STEM subjects are often

culturally stereotyped as "socially isolating" or "solitary." As explored by Kim, Sinatra, and Seyranian (2018), this social pressure forces a painful conflict between a young girl's "social self" and her "STEM self," leading many to intentionally distance themselves from technical subjects in order to conform with their peers.

3. The Pedagogical Shift and Confidence Gap

The final element of the storm comes from a fundamental shift in how science is taught. In elementary school, science is typically dynamic, experiential, and hands-on; however, middle school curricula place a much heavier emphasis on abstract concepts. A longitudinal study by Archambault and Eccles (2010) tracked students across these years and discovered a measurable, statistical divergence in self-perception between the ages of 11 and 12. While boys and girls display identical interest and ability levels in the 4th grade, the abstract pedagogical shift in 6th grade creates a profound "confidence gap" where girls lose the belief that they are capable in STEM, even though their actual academic abilities remain entirely unchanged.

Changing the Conversation Early

Recognizing that these psychological barriers solidify during middle school, the STEM Origins Foundation centers its strategy on early intervention. By introducing programs like the Rising Star Scholarship in the 5th grade, providing hands-on classroom equipment, and placing diverse STEM professionals into local schools as relatable role models, the foundation aims to reshape "kitchen-table" family conversations and reinforce a student's confidence before the 6th-grade drop-off can take hold.



Inspiring the Next Generation: How Inductee R. Rox Anderson Kept His Childlike Curiosity Alive



What turns a curious child into a world-changing inventor? For Dr. R. Rox Anderson, a 2022 National Inventors Hall of Fame Inductee and pioneer in laser dermatology, the secret lies in never letting go of your early wonder. Anderson, who holds over 80 U.S. patents, revolutionized medical care by developing treatments to remove birthmarks, scars, and skin lesions safely

using selective photothermolysis. He also co-invented modern permanent hair removal and cryolipolysis (fat freezing).

Long before his breakthrough medical research at MIT and Harvard, Anderson was just a boy growing up on the flat prairies of Illinois, given the absolute freedom to explore and experiment. He and his friends constantly took apart discarded radios, modified rocket-building kits, and built custom circuits. By age 12, his tinkering led him to become an amateur radio operator connecting with people worldwide.

Reflecting on his journey, Anderson shared a profound truth that perfectly aligns with our mission at STEM Origins: "I think everybody is born with curiosity. It's a question of whether you hang on to it."

Anderson's life serves as a beautiful reminder of why we must protect and nurture the natural inclination to explore in our youth. The hands-on kits and mentor programs we provide aren't just about teaching formulaic science—they are about helping students anchor and protect that innate, lifelong curiosity so they can grow up to solve humanity's biggest problems.

U.S. Patent No. 5,595,568
Inducted in 2022
Born Oct. 30, 1950

Upcoming Events

25 Oct - Top Golf Fundraising Event
25 Oct - STEM Fall Auction Closes
27 Oct - Student of the Month Presentation at Bay District Schools
2 Nov - STEMTalk, "Aluminum 101, How it's made, used & recycled"



Fun(d)raising: TopGolf & Fall Auction

Looking for a fun way to support local STEM education? We have TWO ways! Join us for a special fundraiser at TopGolf in Panama City Beach on Sunday, October 25th from 12:00 to 3:00 PM. This exciting event is not just about golf, it's about bringing our community together to help more students discover the joy of science, technology, engineering, and math. And don't worry if you're not a golfer. This is a no-pressure, fun-for-everyone event! Tickets are on sale now and include 3 hours of TopGolf play with golf clubs and balls, a full buffet, and unlimited soft drinks, plus tips. All proceeds help us support STEM programs for local students in elementary, middle, and high school. Also check out our Fall Auction with three great items to bid on now through October 25th: (a) FULL ESTATE PLANNING package from Lucy Collins, PA (valued at \$2500); (b) Jolly & Bright Holiday Light Package (valued at \$1000); and (c) TopGolf Platinum Elite Membership (valued at \$1500)



STEM Origins - Top Golf Fall Fundraiser
25 Oct 2026

1pm-4pm: 25 Oct 2026
3hr Experience, w/ Food Buffet, Soft Drinks & Tips incl.

2 Price Tiers:

- 14 Sept – 16 Oct:** Early Bird rate = \$75/ea
- 17 Oct – 22 Oct:** Reg Rate = \$88/ea

Tickets: use QR Code (left) or go to: www.stemorigins.org
or <https://www.zeffy.com/en-US/ticketing/fall-topgolf-event-2026>

Great Value, Great Fun

- Reg retail price for Sunday afternoon is \$52/hr = **\$156/3hrs**

Also Seeking Corporate Sponsors



STEM Origins Fall Online Auction
Announcing Featured Items!

Full Estate Planning Package

Lucy C. Collins
ATTORNEY AT LAW

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Lucy@lucycollinslaw.com

14101 Panama City Beach Pkwy
Suite 310
Panama City Beach, Florida 32413

Jolly & Bright
House-Front Christmas Light Package

TopGolf Platinum Elite Membership

352104
TOPGOLF
PLATINUM
ELITE
352104

Get Ready to Bid!
Online Auction Open Now -> Closes 25 Oct.

Click Here

STEMTalks: From Microplastics to Mega-Storms, Neighbors Talk Science at LMWS

The STEM Origins Foundation's STEMTalks speaker series at Latitude Margaritaville Watersound (LMWS) is bringing complex scientific topics into the community through conversations with local experts. Recent presentations explored two very different subjects with one common goal: helping residents better understand the science behind issues that affect everyday life.

Understanding Microplastics

On August 24, organic chemist **Dr. Brian Maxwell, PhD**, presented "Microplastics: What Are They and Should I Be Worried?" Drawing on more than 40 years of experience designing polymers and chemical compounds, Maxwell offered a careful look at a topic that often receives sensationalized media coverage.

Microplastics are generally defined by size, referring to plastic particles smaller than 5 millimeters and extending down to the nanoscale. They develop as plastics and paints wear down, through UV degradation and chemical processes, or through the direct release of tiny plastic particles from products. They can be found in air, water, and soil.

One of the biggest challenges facing researchers is accurately measuring these particles. As particle size decreases, the number of particles can increase dramatically, while contamination from plastics used in laboratories can complicate testing. Scientists are continuing to develop more reliable/standardized methods for measuring environmental exposure.

Maxwell emphasized that while microplastics can be ingested by humans and wildlife and may carry other chemicals, the current evidence does not support widespread panic. The human body routinely encounters and eliminates many indigestible materials. His message was one of perspective: research continues, and reducing unnecessary exposure, including filtering household drinking water, is a reasonable precaution.

Building for Nature's Worst

On September 28, civil engineer **Greg Mertz** turned the conversation toward another familiar concern for Bay County residents: severe weather.

(Continued on next page)



STEMTalks, Continued

Mertz explained how building codes establish minimum design standards and evolve as engineers learn from real-world events. For local homes, hurricane-force winds are the primary environmental force driving structural design. Bay County's design wind speed has increased over the decades as data and modeling have improved.

Mertz also highlighted the importance of wind-borne debris. Standard homes are not designed to provide the same protection as purpose-built storm shelters or FEMA-spec safe rooms. For hurricanes, residents should follow evacuation guidance based on storm surge risk. For tornadoes, moving to an interior room and putting as many walls as possible between yourself and the outside provides additional protection.

Perhaps the most encouraging takeaway was the performance of newer construction.

Homes built under updated post-2011 codes have shown significantly less storm damage than many older homes in side-by-side comparisons. Still, Mertz emphasized that no code-built home is completely "hurricane proof."

Science in the Community

Together, these STEMTalks demonstrate the value of bringing scientific expertise into everyday conversations. Whether the subject is microscopic plastic particles or the forces generated by a major storm, understanding the evidence can help residents replace uncertainty with informed perspective.

The next STEMTalk is scheduled for October 26, 2026. Scott Deon will present "Aluminum 101: How it's made, used & recycled." The STEM Origins Foundation also welcomes new speakers and topic suggestions as the series continues to grow.

Latitude at Watersound Volunteer Fair

On Saturday, September 12, 2026, the STEM Origins Foundation was on site at the Last Mango Theater in Latitude at Watersound (LMWS) for its highly anticipated Volunteer Fair. True to the neighborhood's carefree, "no worries" lifestyle, the Town Square was filled with energy as residents looked for meaningful ways to connect, share their career-long expertise, and give back to the wider community.

The fair showcased a wide array of options for residents wanting to stay active and engaged, ranging from internal neighborhood planning committees to collaborations with external local community organizations. Many attendees met with us to find volunteer roles that match their schedules, whether they are looking to mentor, donate, help with STEM nights at the local schools, or serve in other capacities. We enjoyed meeting those who stopped by to chat!



Octopus-Inspired Robotics

Researchers at the Italian Institute of Technology have developed a soft, tendon-driven silicone robotic arm inspired by the flexibility and mechanics of an octopus. The boneless arm utilizes internal cables to bend, twist, and grasp irregular objects weighing up to 500 grams. Its core innovation lies in a distributed intelligence system, where each of the ten suction cups features a miniature optical sensor and local electronic circuits to coordinate grip and suction instantly without relying on a central controller. This bioinspired technology holds significant potential for applications in underwater exploration, marine archaeology, and delicate surgical procedures. Read the full article at [ASME](#).



Developed by the Istituto Italiano di Tecnologia, the robotic arm integrates tactile sensors into its suction cups to grasp and manipulate objects autonomously, even underwater. Image: IIT



About Us

Our mission is to support local education in science, technology, engineering, and mathematics (STEM) with projects that inspire students and teachers at every level of the academic ladder from kindergarten through college.

We seek to increase the quantity, quality, and diversity of high school and college STEM graduates. Our approach involves engaging students early (K-5) to foster interest in STEM subjects and maintaining engagement throughout middle school, high school, and college with progressively advanced activities.

Programs include providing hands-on experiences, classroom equipment, and

access to STEM professionals through visits, virtual presentations, and coaching on innovation and long-term goals. We offer scholarships for college STEM fields and STEM camps for all grade levels. Additionally, we support STEM teachers through grants for career development, professional growth, and innovative classroom tools to enhance student learning experiences.

The STEM Origins Foundation is a 501(c)(3) nonprofit organization in Bay County, Florida. IRS Certification, Articles of Incorporation, and By-Laws are available on our [website](#). Also visit us on [Facebook](#).

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