ISSUE #4

ORIGINS

STEM Origins Foundation

July 2025

Our 2024 Rising Star Scholars!

STEM Origins is proud to introduce the very first group of students selected for our new Rising Star Scholarship Program! This exciting initiative recognizes outstanding 5th graders in Bay County who have shown strong skills and interest in science, technology, engineering, and math (STEM).

Each Rising Star Scholar will receive a $500 scholarship, which will be held for them until they graduate high school and enroll at Gulf Coast State College. This early investment is our way of encouraging young learners to keep exploring, keep growing, and keep dreaming big.

We invited 5th grade teachers from all Bay County elementary schools to nominate their top students in STEM. Out of 21 incredible nominees, our selection committee chose 10 final winners through a competitive, merit-based process. Selections were based on academic performance, creativity, curiosity, and a passion for learning.

This program was made possible thanks to the generous support of our donors, including several key contributors and a major grant from Capital City Bank. With their help, we were able to fund 10 scholarships in this inaugural year.

Meet Our 2024 Rising Star Scholars:

- **Landon Walls**, A. Gary Walsingham Academy
- **Nicholas Martrain**, Deer Point Elementary
- **Jorge Omana Ricart**, Lucille Moore Elementary
- **Scarlett Jones**, Lynn Haven Elementary
- **Isaiah Lundy**, Merriam Cherry Street Elementary
- **Eric Strickland**, Parker Elementary
- **Drake Hagen**, Patronis Elementary
- **Remington Montrose**, Southport Elementary
- **Emelynn Ritchie**, Tyndall Academy
- **Jake Head**, West Bay Elementary

In this issue:

St. Joe Foundation Boosts STEM Education in Bay County

STEM Origins is proud to announce the receipt of a $23,557 grant from the St. Joe Community Foundation, a generous investment that is already making a powerful impact in classrooms across Bay County. This funding has been used to support Hutchison Beach Elementary, Patronis Elementary, and a pilot STEM program at Bay Base, bringing cutting-edge tools and exciting, hands-on learning experiences to local students.

Beach: Hands-On Engineering
At Hutchison Beach Elementary, $8,050 of the grant was used to purchase a TeacherGeek STEM Maker Cart 2.0, a mobile innovation lab designed to spark creativity and real-world problem-solving. Each cart includes:

- Over 15,000 parts and components
- Durable tools for building, testing, and improving designs
- Access to 60+ free engineering challenges and optional labs

Students are now diving into exciting projects in robotics, coding, and engineering design, gaining valuable experience in STEM that will stay with them for years to come. Teachers benefit, too; the ready-to-use system makes it easy to guide students through the engineering process in a focused, fun, and engaging way.

This long-lasting investment will impact hundreds of students at Beach Elementary, bringing STEM to life through experimentation, exploration, and innovation.

Patronis: Coding & Robotics Take Off
At Patronis Elementary, $8,700 from the St. Joe grant funded two advanced coding and robotics systems along with a high-capacity Tech Hub storage and charging cart. These tools are already transforming the way students interact with STEM concepts in the classroom.

Sphero Indi Class Pack + Code Pack
This kit introduces younger students to the basics of coding, pattern recognition, and algorithmic thinking, all through screen-free play.

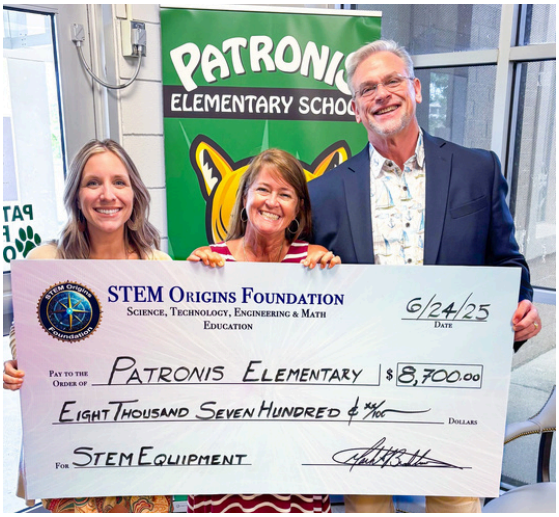
Sphero BOLT Power Pack + Code Mat
For older students, this robotics kit includes 15 programmable robots, a classroom-sized 6' x 4' coding mat. Students program robots to navigate challenges, building their computational thinking, spatial awareness, and creativity helping lay the foundations of scientific literacy.

Tech Hub Storage & Charging Cart
To keep things organized and charged, Patronis also received a lightweight, mobile cart that stores and charges up to 32 devices, making it easy for teachers to manage and rotate materials across classrooms.

Future: Pilot STEM Program at Bay Base
A portion of the St. Joe Foundation grant is also being directed toward launching a new STEM pilot program at Bay Base, further expanding access to high-quality STEM learning for students beyond the traditional classroom. This includes marine ecology field experiences and other exploratory learning opportunities that connect students with the natural world around them.

Investing in Tomorrow, Today
Thanks to the vision and support of the St. Joe Community Foundation, students across Bay County are now exploring STEM in exciting new ways. From building robots to designing machines, they are gaining hands-on experience that builds curiosity, creativity, and confidence.

We're incredibly grateful for this partnership and look forward to seeing how these resources will continue to shape young minds for years to come.



A Blacksmith Helped Farmers and Built a Famous Company

With each issue of Origins, we bring you the origin story of real life inventors, men and women who have been inducted into the National Inventors Hall of Fame (NIHF). These are both famous and little known individuals who have made a significant contribution to the world with the realization of their ideas. Many thanks to the NIHF for sharing their content with us.

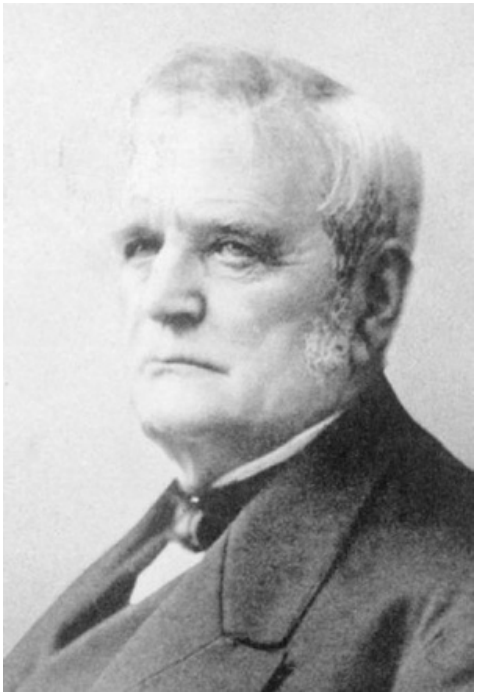
Did you know that one of America's most famous farming companies started because of a problem with dirt?

Back in 1837, a blacksmith named John Deere was living in a small town in Illinois called Grand Detour. Farmers there were having a tough time. The heavy Midwestern soil would stick to their old cast iron plows, making farming slow and frustrating.

John Deere had an idea. He used a piece of steel from an old sawmill blade to create a new kind of plow. This steel plow had a smooth surface and a curved shape that helped it slice through the thick prairie soil without getting clogged. It worked so well that other farmers wanted one too!

By 1846, John was making and selling nearly 1,000 plows a year. He later moved to Moline, Illinois, where he started a company just to build his special plows. He even began using American-made steel from Pittsburgh to keep up with demand. By 1856, he was selling over 13,000 plows every year.

John Deere had started out as a blacksmith in Vermont. He moved west, saw a problem, and used his skills to solve it. That small idea grew into Deere & Company, a business that still makes farming equipment today—almost 200 years later!



Today in Bay County, we may not have prairie soil, but we still depend on smart tools and creative problem-solving, just like John Deere did nearly 200 years ago. Local farms, construction crews, and even school STEM programs use modern machines and technology that grew from ideas like his. John Deere's story reminds us that innovation starts with noticing a problem and being brave enough to try something new—something students in Bay County are learning to do every day.

John Deere
U.S. Patent No. 46,454
Inducted in 1989
Born Feb. 7, 1804 - Died May 17, 1886

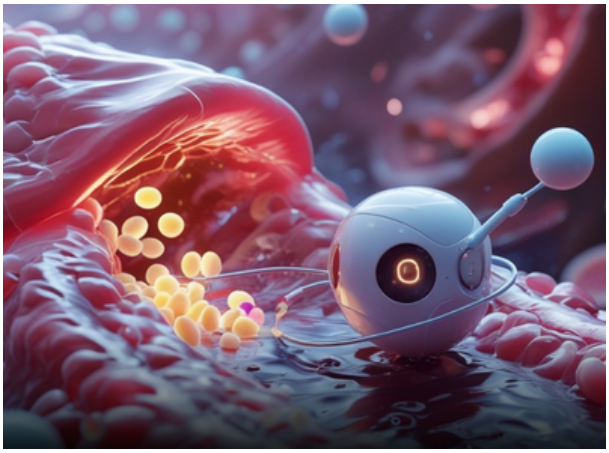
Attribution: https://www.invent.org/inductees

Mini Medical Robots

Scientists made a tiny robot, about the size of a grain of rice, that travels inside the body to deliver medicine and then safely disappears.

It's made of soft, harmless materials and steered with magnets—no surgery needed! Doctors can guide it to places like the brain or lungs.

Once it finds the sick area, it releases medicine and breaks down naturally. This amazing robot could help treat cancer, strokes, and more—right from the inside. Attribution: Infinite Curiosity



Why is Stem Important?

With every issue of Origins, we bring you an excerpt from our Strategy Plans to help you better understand the importance of STEM education. This issue, we look at what we are doing to engage youth in STEM.

Our Strategic Objectives
Open Up the Pipeline: Work across the academic ladder (K-12) to stimulate a passion in STEM early (K-5) and support that passion through high school and into college. Reduce barriers & change perceptions by increasing awareness and exposure to counter societal norms, lack of role models, etc.

Measures of Effectiveness:
- Increase the number of Bay Co high school grads pursuing college STEM degrees.
- Increase the number of Bay Co high school grads that successfully achieve college degrees in STEM fields.

A Multi-faceted Approach
- *Increase STEM Kits/Equip (K-12):* Purchase STEM equipment, tools and supplies for the Local Schools in classrooms at all levels, K-12.
- *Increase Hands-on Experiences*: Support hands-on immersive experiences in STEM after-school programs, local STEM summer camps, and scholarships to advanced STEM camps .
- *Increase STEM Awareness, Provide STEM Pro Mentoring & Coaching:* One-on-One mentoring for Invention Convention as well as in-class panels, STEAM night, College Coaches, etc.
- *Breakdown Barriers, Change Stereotypes, and Perceptions:* Demonstrate that anyone with passion for STEM and a baseline aptitude can achieve success in STEM careers. Recruit STEM pros from all backgrounds, races & genders and bring them into the classroom to serve as exemplars & role models.
- *Make College a more Accessible and Viable Option for all:* Strive to pull more lower income students into college STEM programs as 1st generation college students. This starts at the beginning of the STEM pipeline (K-5) by changing the “kitchen-table” conversations so that STEM field are considered viable options for their children. That perception must be reinforced across the academic ladder through a variety of activities, such that it woven into the fabric of everyone of our programs.

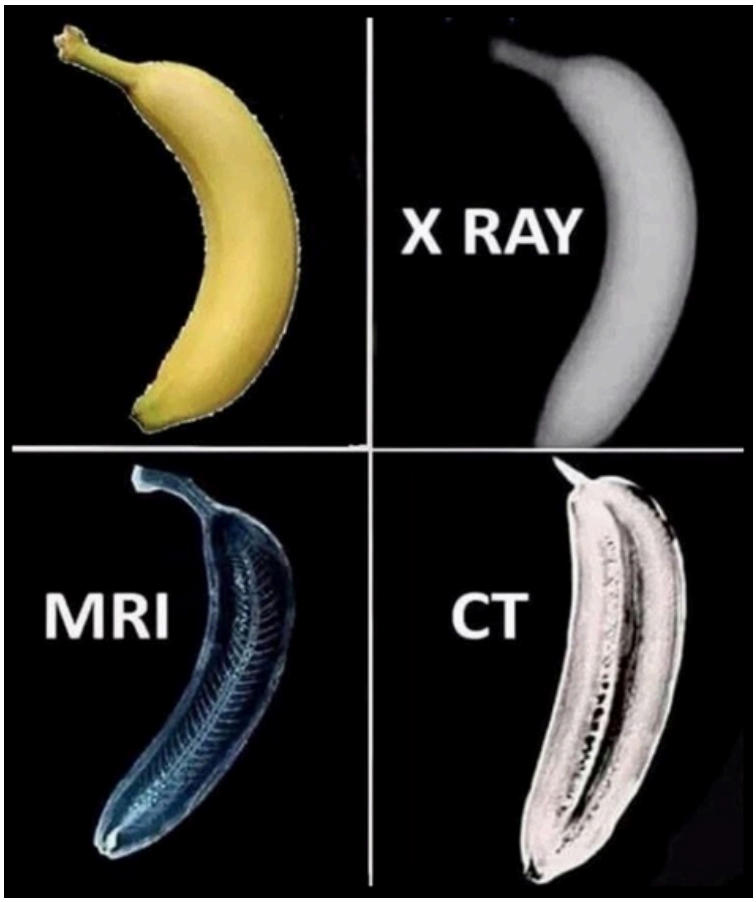
X-ray a Banana?

This picture uses a banana to help explain how doctors see inside the body using special tools. It shows how X-rays, CT scans, and MRIs are different.

- An X-ray shows just the outside shape, kind of like looking at the banana peel.
- A CT scan shows slices inside the banana, helping find things like bruises.
- An MRI shows the most detail, like the tiny lines and textures inside the fruit.

Using a banana makes this idea easier and more fun to understand. It doesn’t show real body images, but it helps people learn how each scan works and what it’s best at showing.

Attribution: Science Pulse



Volunteer Profile: Clint Rodenfels, Newsletter Team Lead

Mr. Rodenfels has over 40 years of professional experience across multiple disciplines and industries. He began his career and subsequent exposure to engineers writing about computer systems and communication satellites. After supporting departmental computers for a few years, he officially moved into IT, providing desktop support and managing teams of technicians. Throughout, he volunteered with various organizations and finally decided to pursue community benefit work rather than technology. This led to roles in higher education where he ran university programs to improve graduation rates and ultimately served as Dean of Student Services for a 10,000+ student community college campus. Clint returned to his love of the written word and now leads the Global Customer Service Knowledge Management and Training Center of Excellence for a biomedical manufacturer. He has a Bachelor of Science in Quantitative Systems, Business Computer Methods and a Masters in Social Work. Clint is a recent arrival to the panhandle after stops in Nashville, Dallas, San Jose, Chicago, San Diego, Austin, and San Antonio. He's glad to have landed in Bay County and plans to stay here.

STEM Origins Fundraiser at TopGolf – September 28!

Looking for a fun way to support local STEM education? Join us for a special fundraiser at the new TopGolf in Panama City Beach on Saturday, September 28 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 for just $57, that's the Early Bird price! After August 7, the price goes up to $78, so get your tickets soon.

What's included:

- 3 hours of TopGolf play
- A full buffet and unlimited soft drinks
- All tips included
- Golf clubs and balls (or bring your own)

Here's the best part, the retail price for this experience is over $150 per person, and that doesn't even include food or drinks. So whether you love golf or just want to swing at something for fun, this is a great deal and a great cause! All proceeds help us support STEM programs for local students in elementary, middle, and high school.

Want to sit or play with your friends? When you buy your tickets, type "STEM Team" in the group name section. We'll make sure your group is together or close by.

Get your tickets here or scan the QR code to the right for the registration page.

Capital City Bank Steps Up for STEM Students

On June 18, Capital City Bank presented a $2,000 grant to help fund our Rising Star Scholarships. STEM Origins President Mark Bradshaw accepted the check and used the opportunity to share our mission with the bank's regional VP. Exciting news followed, Capital City Bank also agreed to sponsor our upcoming TopGolf fundraiser! Even better, they connected us with other local banks who may join in. We're hoping to turn this into a "Battle of the Banks" for a great cause!

New STEM Kits Coming to Community Events

To make our STEM demos even more fun, we're adding new kits and gear to our collection including items like anatomy models, gravity mazes, and digital microscopes. These will be used during school STEAM Nights and community events like Grandparents Day. One of the microscopes will also be raffled off to a lucky winner! By making STEM fun for both youth and adults, we hope to increase engagement for all and encourage students to pursue STEM careers.

STEM Fun at LMWS Grandparents Day

STEM Origins is excited to bring science fun to this year's Grandparents Day Festival at Latitude Margaritaville Watersound on Friday, July 19, at the Town Center Bar & Chill!

We've been invited by the community's HOA to help make the event extra special for the kids. Just like at our School STEAM Nights, we'll be setting up hands-on STEM demonstrations and cool activities that everyone can enjoy. From building mini rockets to exploring the world up close with microscopes, we're planning a table full of discovery and excitement.

Special Raffle!
To help raise funds for our STEM programs, we'll host a fun raffle at the event. Prizes will include:

- NASA-themed T-shirts for space fans
- A wireless LCD microscope for young scientists who love to explore the tiny details of the world around them

Whether you're a grandparent, a student, or just someone who loves learning, this is a great chance to have fun, meet others in the community, and support STEM learning for kids in our area.

Save the date: Friday, July 19

Town Center Bar & Chill – Latitude Margaritaville Watersound

We can't wait to see you there! Bring your curiosity and get ready for a great time.

Upcoming Events

Some of our exciting events and activities coming in June and beyond:

- **19 July:** Annual Grandparents Day at Latitude Margaritaville Water Sound (LMWS), Oasis Room. This is another opportunity for us to increase STEM Origins visibility. We anticipate having giveaways, raffles, and other fun activities.

- **July 22**: Rising Star Awards Ceremony at Gulf Coast State College, with brief speeches from college and STEM Origins leaders. Students will also receive a special tour of the college's rapid prototyping labs.

Resources

STEM-related information links:

STEM Origins on Facebook
Join us on Facebook.
https://www.facebook.com/profile.php?id=61572445529356

Invention Convention Worldwide
The Henry Ford Foundation's site for information about the global Invention Convention.
https://inhub.thehenryford.org/icw/home

Bay District Schools
Official site for Bay County schools.
https://bay.k12.fl.us

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 plan to offer scholarships for college STEM fields and STEM camps for all grade levels overtime. Additionally, we support STEM teachers through grants for career development, professional growth, and innovative classroom experiments 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 (see below).