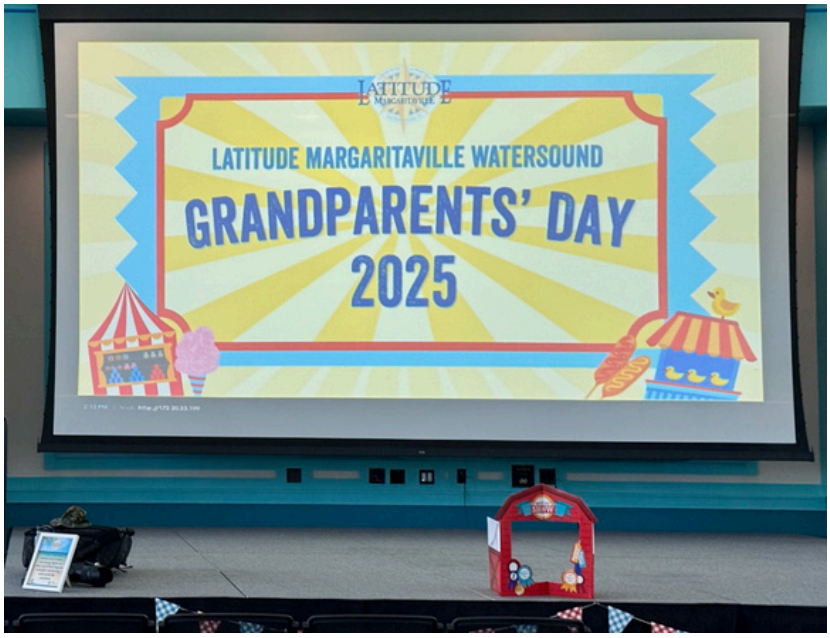
ISSUE #5

ORIGINS

STEM Origins Foundation

August 2025

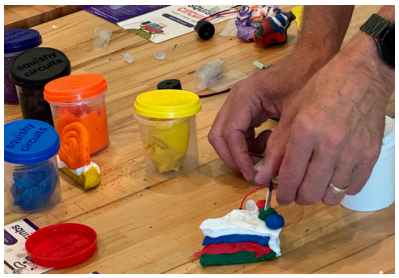


STEM Origins Sparks Grandparents Day

On Saturday, July 19, STEM Origins volunteers joined the LMWS Grandparents Day Celebration with a full lineup of hands-on science fun. From 11 a.m. to 3 p.m., the Oasis Room buzzed with energy as kids and grandparents explored eight interactive exhibits.

Volunteers guided guests through everything from anatomy models and magnet games to squishy circuits and a gravity maze. A Van de Graaf generator sent hair flying, while microscopes and STEM kits encouraged curiosity up close. The raffle and information table, hosted by Mare Malone and Lori Harvey, helped raise awareness and support for future programs by raffling off five STEMy T-Shirts and a Wireless LCD Microscope.

Thanks to our dedicated team, including Kelly Chamberlain, Maureen Nerenbaum, Lisa Lee, Donna and Steve Alexander, Mike McManus, Marilyn Fabricius, and Brian Maxwell—students and families discovered just how exciting STEM can be.



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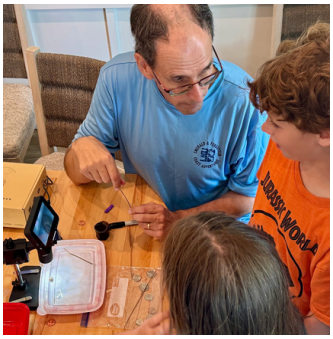


Rising Star Scholars Celebrated at GCSC

STEM Origins proudly launched its new Rising Star Scholarship (RSS) program with a special ceremony at Gulf Coast State College (GCSC), where scholarships were awarded to students from 10 different schools across Bay County.

Through the RSS program, we are awarding $500 scholarships to outstanding 5th graders. These scholarships will remain in trust until students graduate from high school, ready to be used at GCSC. This year's winners are:

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

The program provides each student with a seven-year goal, a clear destination after high school, and, perhaps most importantly, external recognition of their talent. For families where college is not yet a common expectation, this recognition can shift "kitchen table" conversations and open new doors of possibility. Each scholarship has ripple effects that can inspire peers, siblings, and neighbors to think, "If they can do it, maybe I can too."

At the ceremony, **GCSC President Glen McDonald** welcomed students and families, underscoring the importance of STEM education. **Mark Bradshaw** explained how the partnership between STEM Origins and the GCSC Foundation makes this program possible. Volunteers **Mare Malone**, **Donna Alexander**, **Stacy Garner**, and **Shari Bradshaw** supported the event, where each student received a certificate, a custom T-shirt, and a personal challenge to pursue excellence. After the awards, parents and students toured the college's science and technology labs, then gathered for cookies, cupcakes, and sodas.

The Rising Star Scholarships are, more than financial support, seeds planted in young minds, ready to grow into tomorrow's STEM leaders.

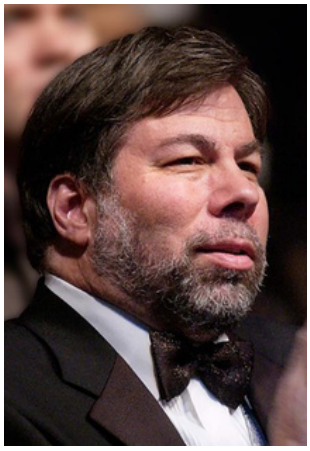
Steve Wozniak: Founding Father of Personal Computers

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. These are both famous and little known individuals who have made a significant contribution to the world with the realization of their ideas.

Steve Wozniak, often called "Woz," changed the way the world uses technology. Growing up in San Jose, California—the future heart of Silicon Valley—he was fascinated by math and electronics from an early age. After brief studies in Colorado, he returned to California and attended the University of California, Berkeley.

Wozniak first worked designing calculators at Hewlett-Packard, where he met Steve Jobs. In 1975, he built his first major project—the Apple I computer. With Jobs as his partner, the two co-founded Apple Computer in 1976 and began selling their invention out of Jobs' garage. The Apple I was simple by today's standards—a circuit board connected to a keyboard and monitor—but it could plug into an ordinary TV and gave people a taste of what a personal computer could be.

Just a year later, Wozniak launched the Apple II. With color graphics, a floppy disk drive, and a sleek design, it became one of the first widely successful personal computers. This breakthrough helped create our current personal computer industry.



In 1981, Wozniak returned to UC Berkeley to finish his electrical engineering and computer science degrees.

Over the years, he has earned patents, awards, and recognition, including the National Medal of Technology. Yet Wozniak is just as well known for his generosity. He has supported schools, founded the Electronic Frontier Foundation, and sponsored museums and community programs.

Reflecting on his career, Wozniak said: "As an engineer, you can change your world and change the way of life for lots and lots of people." His story reminds us how curiosity and innovation can shape the future.

U.S. Patent No. 4,136,359
Inducted in 2000
Born Aug. 11, 1950

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

Koala Fingerprints?

Koalas don't just look cuddly, they also share a surprising trait with humans: fingerprints. These marsupials are the only ones with ridge patterns so detailed (loops, whorls, and arches) that even forensic scientists may struggle to tell them apart from ours. Evolving independently through convergent evolution, koala prints help them grip branches and leaves just like primates. A koala could even "contaminate" a crime scene, though that's purely hypothetical. Evolution's creativity never ceases to amaze!

Attribution: Science Pulse

Volunteer Profile: Meet Tom Spicer

Tom Spicer is an Aeronautical Engineer that served as a fighter pilot and test pilot in the United States Air Force for 27 years. After retiring from the Air Force, Tom had the opportunity to fly for United Airlines for 20 years as a test pilot, simulator instructor pilot and airline pilot. During a furlough period from United airlines Tom taught Physics at the Air Force Academy for 7 years and at Valor Christian High School for 4 years.

While at the Air Force Academy Tom taught courses in Meteorology, RADAR, and instructed cadets to fly in the motor glider. While teaching Physics at Valor Christian High School, Tom started a Service Academy club to mentor students applying to Military service academies and started the Valor Robotics club that mentored students to build and compete at High School Robotics competitions.

Tom has a passion for Astronomy and taught an Astronomy course at the college level and built two reflector telescopes as a child. Tom has over 4000 hours of flying time in 60+ different types of aircraft. He has instructed pilots on the T-37, F-4, B-737, B757, B-767, and the Ximango Motor Glider aircraft. Tom is now retired and resides in Panama City Beach 8-9 months (during the school year) and in Colorado during the summers. He enjoys volunteering for organizations in Florida and Colorado.

Topgolf Fundraiser Update

Our Topgolf fundraiser is off to a strong start! As of September 1, we've sold 106 tickets: 78 online, 22 in person, and 6 through a corporate sponsor. The Early Bird special wrapped up on August 6 at 11:55 p.m., when tickets shifted to the regular $78 price. Even at this rate, participants are still getting nearly 50% off the retail cost of a Topgolf experience.

Mark your calendars! The event takes place on Sunday, September 28, 2025, at the Panama City Beach Topgolf facility, located at **7505 Topgolf Way, Panama City Beach, FL 32413**.

In addition, the fundraiser was placed as an ad on 30A-TV, as well as on the PCB Chamber of Commerce Events Calendar, both of which reach across the region. Even better, this was all done free of charge due to new member benefits of the two chambers of commerce.

In early September, STEM Origins was featured in the Bay Chamber of Commerce's e-Biz Weekly update, a countywide publication reaching businesses and community members across Bay County. This exposure helps us reach new players, families, and potential corporate sponsors.

Reserve your spot today by registering online at https://stemorigins.rallyup.com/topgolf25-early/Campaign/Details or scanning the QR code above. Every ticket sold supports STEM learning opportunities for students right here in Bay County. We look forward to seeing the community come together at this event!

Resources

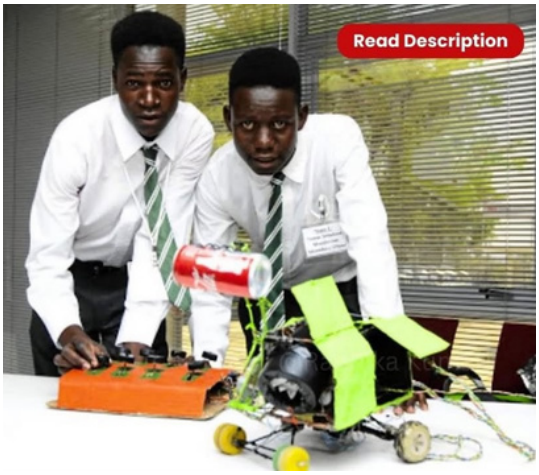
STEM Origins on Facebook
https://www.facebook.com/profile.php?id=61572445529356

Bay District Schools
Official BDS site: https://bay.k12.fl.us

Invention Convention Worldwide
At the Henry Ford Foundation's site:
https://inhub.thehenryford.org/icw/home

Teens Create Fire Rescue Robot from Recycled Materials

In 2018, South African teens Trevor Simelane (16) and Joseph Mdluli (17) invented a fire rescue robot made entirely from recycled materials. Their creation can enter burning buildings, navigate rubble, and locate trapped people, keeping firefighters safe while saving lives. The innovation won the 2018 HIP2B2 3M Innovation Challenge, proving that sustainability and heroism can go hand-in-hand, and that young minds have the power to turn waste into life-saving solutions.



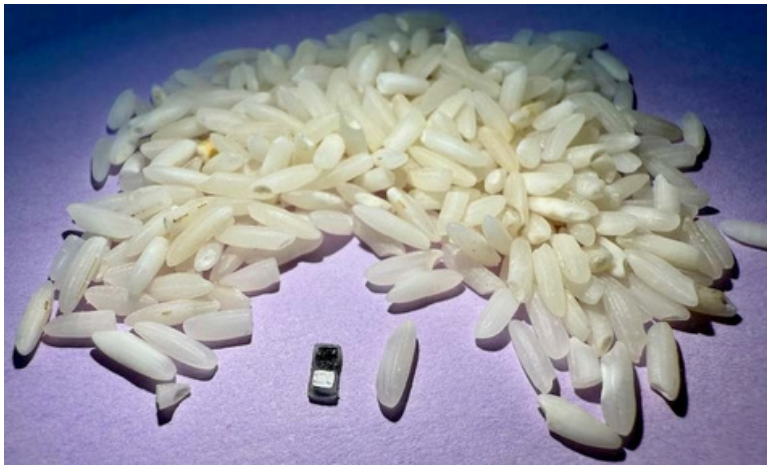
Attribution: STEM-apalooza

Continued Outreach to BDS

On Monday, August 4, STEM Origins board members **Brian Maxwell** and **Mark Bradshaw** met with nearly 50 Career and Technical Education (CTE) teachers and team leads from Bay District Schools. The meeting, organized by **CTE Supervisor Jonathon Moore**, gave Mark the opportunity to introduce STEM Origins' mission and programs. Teachers showed strong interest in bringing mentors into their classrooms. This gathering marked an important step in strengthening ties with local educators and expanding our reach to inspire students across Bay County.

World's Smallest Pacemaker will Save Lives. Then Dissolve.

Researchers at Northwestern University have created the world's smallest pacemaker. It is so tiny it fits inside a syringe (the image shows it among a handful of rice kernals). Called the "milli-pacemaker," this device was designed to help newborns with congenital heart defects, many of whom need temporary pacing after surgery. Unlike traditional pacemakers that require wires and surgical removal, this wireless, dissolvable version poses far fewer risks. Activated by light pulses from a small wearable on the chest, it gently stimulates



the heart until it heals. Then, it safely dissolves inside the body. Still in testing, the milli-pacemaker has already shown success in animal trials and may someday help both children and adults recover without risky procedures. Attribution: ASME

Artificial Skin?

Scientists at Seoul National University have created artificial skin that mimics real human touch. Unlike earlier versions, it can sense heat, pressure, vibrations, and even pain. Made from stretchable polymers with nanomesh sensors, it detects subtle changes like the warmth of a cup or the chill of metal. Signals reach the nervous system almost instantly, giving prosthetic users near-natural sensation. Durable and resilient, this breakthrough could transform prosthetic medicine and lifelike touch in future robots.

Attribution: Forrest Hunts

Never too Old for Computers

Grace Hopper, known as “Amazing Grace,” rewired the future of computing. Rejected at first for being too old and too bold, she joined the Navy in World War II and tackled the massive Mark I computer. Hopper invented the compiler, making it possible to program in English and paving the way for COBOL, still used today. She coined “debugging,” served until age 79, and never stopped challenging limits. Every time you use a computer, you’re standing on her code.

Attribution: True Stories

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.