October 2026

GEORGIA PATHWAYS

MAGAZINE



Quantum Computers

Beyond **The New Tools**

Getting To Know Your Students

Dr. Judy Willis

The Technology Association of Georgia Education Collaborative (TAG-Ed) strengthens the future workforce by providing students with relevant, hands-on STEM learning opportunities and connecting them to Technology Association of Georgia (TAG) resources.

Formerly the TAG Foundation, TAG-Ed is a 501(C)(3) non-profit organization formed by TAG in 2002. Later, the organization's name was re-branded to TAG Education Collaborative to facilitate our role as the leaders for K-12 STEM education in Georgia.

President / CEO
Larry K. Williams

Executive Director
Dr. Loretta Daniels
http://www.tagedonline.org

Publisher
Wayne Carley
wayne@tagonline.org

This magazine services the STEM education industry needs of the state of Georgia and is viewed by the reader with the understanding that the information presented is from various sources from which there can be no warranty or responsibility by the Technology Association of Georgia, the Technology Association of Georgia Education Collaborative and/or their affiliates as to legality, completeness or accuracy.

Using Quantum Computers
Coury Turczyn / ORNL

Traditional vs Quantum
Wayne Carley

Getting to Know Your Students
Dr. Judy Willis

Beyond the New Tools
Shelly A. Muñoz

New Study - ADHD Medications
Andrew Fuchs PharmD

Becoming A Gaming Executive
Anika Howard

Welcome to the October 2026 edition of Georgia Pathways Magazine. Georgia's future will be shaped by the technologies we develop and the people we prepare to use them. This issue explores that connection, from quantum computing to helping students discover their strengths, develop their talents, and pursue new opportunities.



Across these articles, a theme emerges: as technology grows more powerful, the human side of learning becomes even more important. Scientific breakthroughs require specific conditions to succeed; learners need environments that nurture curiosity and respond to individual needs. Together, these perspectives explore how innovation and education can expand possibilities while preserving human connections that make progress meaningful.

In "Quantum Computer Innovations," Oak Ridge National Laboratory explains how quantum machines differ from everyday computers and why the shift is a leap, not a step. "Quantum Computer Construction" offers a video look at how these unique, fragile, and beautiful machines are built. Both highlight the careful conditions breakthrough technology requires.

The same principle applies to students. "Getting to Know Your Students" explores how understanding individual strengths helps educators make the most of their time, while "Innovative Perspective on Treating ADHD" examines personalized approaches to medication and alternative management methods. As AI enters the classroom, "Beyond the New STEM Tools" emphasizes the lasting value of curiosity, genuine interaction, and learning from scratch.

Finally, "A Woman's Journey into the Gaming Industry Leadership" follows Anika's path from an early interest in STEM to computer animation, software engineering, and leading her own gaming company despite barriers tied to her age and gender. Anika's story proves that when we nurture curiosity and meet learners where they are, we build Georgia's future one student at a time.

Larry K. Williams
President
TAG / TAG-Ed

Larry K. Williams serves as the President and CEO of the TAG and the TAG Education Collaborative. TAG-Ed's mission is to strengthen Georgia's future workforce by providing students with relevant, hands-on STEM learning opportunities by connecting Technology Association of Georgia (TAG) resources with leading STEM education initiatives.

Your students will graduate into an AI-driven workforce.

TAG | TAG-Ed
Education Collaborative

In collaboration with
IBM **SkillsBuild**

No cost	**8–12 wks**	**IBM**
to your institution	cohort-based delivery	authored curriculum

01 **Curriculum that keeps pace**
Bring IBM-authored AI, cybersecurity, and data content into existing programs — no new courseware build.

02 **Credentials students can carry**
Learners finish with a verifiable digital credential recognized by employers across the region.

03 **Employer alignment, built in**
TAG-Ed connects your campus to Georgia's technology employers and their hiring needs.



"The question isn't whether AI belongs in our programs. It's how quickly we can put it in front of students."

Conversation starter for your next cabinet meeting

Bring IBM SkillBuild to your campus.

Schedule a 20-minute briefing with the TAG-Ed team.

www.tagedonline.com

To understand STEM...

...you must DEFINE STEM. You cannot define an acronym without defining each of the words the letters stand for.

Universities and organizations around the world continue to debate what a STEM career is, but there is no doubt that "every career" uses STEM skills and this observation remains the focus of STEM Magazine.

Science: "The systematic accumulation of knowledge" (all subjects and careers fields)

Technology: "The practical application of science" (all subjects and careers)

Engineering: "The engineering method: a step by step process of solving problems and making decisions" (every subject and career)

Math: "The science of numbers and their operations, interrelations, combinations, generalizations, and abstractions" (every career will use some form[s])

For a moment, set aside any preconceived notions of what you think a STEM career is and use the above dictionary definitions to determine the skills used in any career field you choose.

These definitions are the "real" meaning of STEM and STEM careers.

OAK RIDGE National Laboratory

Calculating a New View on Quantum Mechanics Using Quantum Computers

By Coury Turczyn / ORNL

Researchers leverage IBM quantum hardware through the OLCF's QCUP to model a key particle physics process, laying the groundwork to push beyond the limits of classical computation.

By remotely accessing an IBM quantum computer through the Quantum Computer User Program (QCUP) — a quantum computing access program managed by the Oak Ridge Leadership Computing Facility, a Department of Energy Office of Science user facility located at DOE's Oak Ridge National Laboratory — a research scientist at Lawrence Berkeley National Laboratory successfully simulated a key process in particle physics: hadronization.

Although based on a simplified model of quantum mechanics, the project lays the groundwork for how physicists can leverage the power of quantum computers to make large scientific calculations beyond the capabilities of classical supercomputers.

Hadronization occurs when two or more quarks — the subatomic building blocks of matter — bind together through the strong nuclear force to form composite particles called hadrons. The most familiar examples of hadrons are protons and neutrons, which form the nuclei of atoms. So, having a better understanding of the hadronization process means having a better understanding of the structure of matter and, in turn, the universe.

Physical experiments have not been able to reveal every step of the process, however. Researchers at the Large Hadron Collider (LHC) at CERN accelerate protons to near light speeds, guide them into collisions and study the resulting debris of quarks and antiquarks.

But these particles can only be indirectly measured before they immediately undergo hadronization — hence the need for computer simulations to fill in the gaps of these scientific observations.

"In principle, we know the theory that describes hadronization, but we are unable to make predictions using it because the calculations have been too difficult for a classical computer. However, on a quantum computer, we should be able to directly make predictions for the details of how hadronization occurs, which will help with the searches for new physics performed at colliders such as the LHC," said Anthony Ciavarella, the Berkeley Lab research scientist who led the project. His findings were published in Physical Review D.

Quantum computing — a technology still in the early stages of development relative to classical supercomputers such as the OLCF's exascale-class Frontier — utilizes quantum bits, or qubits, to perform calculations. Unlike binary bits used by classical computers, qubits don't employ only ones and zeroes to encode information. Rather, they use a quantum superposition of combined ones and zeroes that may exponentially increase processing power for certain kinds of problems, such as the quantum mechanical interactions of subatomic particles.

Accurately simulating quantum chromodynamics (QCD) — the theory describing how the strong force binds quarks and gluons — overwhelms classical computers. The strong force binds and entangles the subatomic particles so that their representation and manipulation on classical computers requires exponential amounts of processing power and memory to predict observable results.

This is because binary computers must separately represent all the different possible quantum states of the particles, which becomes an exponential scaling problem — the amount of memory needed doubles for every new particle or time step added to the simulation. On the other hand, quantum computers are far more efficient at describing subatomic systems because their qubits can exist in multiple states just like the particles themselves. Furthermore, their computational power grows exponentially with each additional qubit.

"One of the original motivations for building quantum computers was that they naturally have this quantum phenomenology built into how they're constructed. And in these simulations of subatomic systems, we've got large amounts of entanglement and quantum correlations that you just can't efficiently represent on a regular computer," Ciavarella said.



String breaking is a fundamental mechanism in the hadronization process. Quarks are linked by "strings" of gluons that stretch as the quarks collide and spin away, ultimately releasing enough energy to "snap" the gluon string apart as a new quark-antiquark pair bind together to form a hadron. Credit: Getty Images.

Setting the template for quantum calculations

Ciavarella's project ultimately aims to develop the computational techniques needed to simulate the QCD of large subatomic systems on quantum computers of the near future. (Current quantum computers have limited numbers of qubits and are prone to high error rates, but the technology is rapidly evolving.) For this initial step, he simplified the simulation's parameters with a combination of his own techniques and ones that scientists have used for QCD simulations on classical computers. With the cloud access provided by QCUP, he applied them to a Heron processor on the IBM Quantum Platform, leveraging 104 of its 156 qubits.

First, Ciavarella used a heavy quark limit while simulating string breaking, which is a fundamental mechanism in the hadronization process. Quarks are linked by "strings" of gluons that stretch as the quarks collide and spin away, ultimately releasing enough energy to "snap" the gluon string apart as a new quark-antiquark pair bind together to form a hadron. Heavy quarks (with more mass) are easier to simulate because they don't spread out as much as light quarks, so they can fit more easily as points on a simulation grid. Researchers then extrapolate these heavy results down to the light quark behavior.

Second, Ciavarella used a "scalable circuit concurrent variational quantum solver," a computational technique that he co-developed as a graduate student at the University of Washington, to bring the quantum computer's qubits to a quantum vacuum state — the lowest energy level with the most stability.

"The idea is to optimize these vacuum preparation circuits on a small system size. Then you do it slightly bigger and slightly bigger and slightly bigger. So, by doing this, you can understand how the parameters of your circuit depend on the system size, and you can then extrapolate that out to doing it for a large system.

For example, you can optimize this on up to 10-12 qubits and then extrapolate that out to hundreds if you choose to do so," Ciavarella said.

Finally, he limited his simulation to one dimension, with particles moving only left to right and back. Ciavarella plans on adding an additional dimension in the next iteration of his work, which he'll tackle once he can access improved quantum computers and algorithms. But this project succeeded in seeing how far the existing hardware can be pushed in string-breaking simulations, with results that matched previous work on classical supercomputers.

"One of the findings that we reproduced here is that, in the middle of the gluon string, it starts to look like it's gasifying at a finite temperature before it separates. This is exciting because, if we see this reproduced across a wide range of different simplified models, then it should be more likely it's an actual feature of QCD that describes the world we live in," Ciavarella said.

Related Publication-

Anthony Ciavarella, "String breaking in the heavy quark limit with scalable circuits," Physical Review D 111 (2025). DOI: 10.1103/PhysRevD.111.054501

QCUP provides computational scientists with access to state-of-the-art commercial quantum computing resources for purposes of discovery and innovation in scientific computing applications. It is managed by the Oak Ridge Leadership Computing Facility, a DOE Office of Science user facility at ORNL that is supported by DOE's Advanced Scientific Computing Research (ASCR) program.

UT-Battelle manages ORNL for DOE's Office of Science. The Office of Science is the largest supporter of basic research in the physical sciences in the United States and is committed to addressing some of the most pressing challenges of our time. For more information, visit **energy.gov/science**.



Coury Turczyn writes communications content for the Oak Ridge Leadership Computing Facility (OLCF). He has worked in different communications fields over the years, though much of his career has been devoted to local journalism. In between his journalism stints, Coury worked as a web content editor for CNET.com, the G4 cable TV network, and HGTV.com.

To understand STEM...

...you must DEFINE STEM. You cannot define an acronym without defining each of the words the letters stand for.

Universities and organizations around the world continue to debate what a STEM career is, but there is no doubt that "every career" uses STEM skills and this observation remains the focus of STEM Magazine.

Science: "The systematic accumulation of knowledge" (all subjects and careers fields)

Technology: "The practical application of science" (all subjects and careers)

Engineering: "The engineering method: a step by step process of solving problems and making decisions" (every subject and career)

Math: "The science of numbers and their operations, interrelations, combinations, generalizations, and abstractions" (every career will use some form[s])

For a moment, set aside any preconceived notions of what you think a STEM career is and use the above dictionary definitions to determine the skills used in any career field you choose.

These definitions are the "real" meaning of STEM and STEM careers.

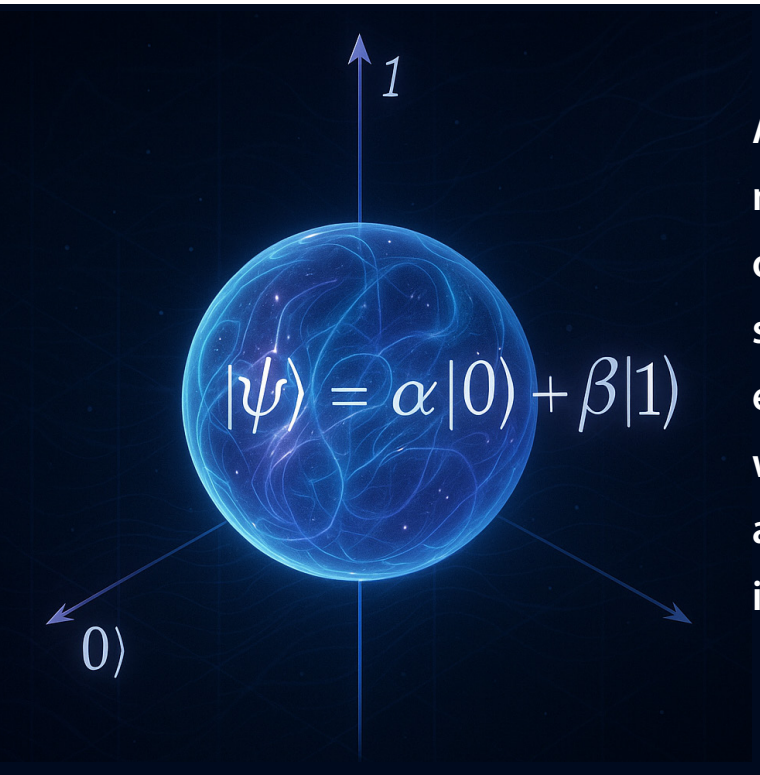
Traditional Computing vs. Quantum Computing

Traditional computers process information using bits, a basic unit of digital information and can have one of two values: 0 or 1. Everything a traditional computer does—from displaying a video to calculating a spreadsheet—is ultimately represented using combinations of these zeros and ones. Modern computers can process billions or even trillions of bits and perform enormous numbers of calculations very quickly.

Quantum computers use qubits, or quantum bits. Unlike a traditional bit, a qubit can exist in a combination of 0 and 1 at the same time. This property is called superposition.

Another important quantum property is entanglement, which can create a strong relationship between qubits. These properties allow quantum computers to approach certain problems in ways that are fundamentally different from classical computers.

One important difference is how the computers approach calculations. A traditional computer generally performs operations on definite combinations of 0s and 1s. A quantum computer can manipulate quantum states and use quantum algorithms to increase the ***probability*** of obtaining useful answers.

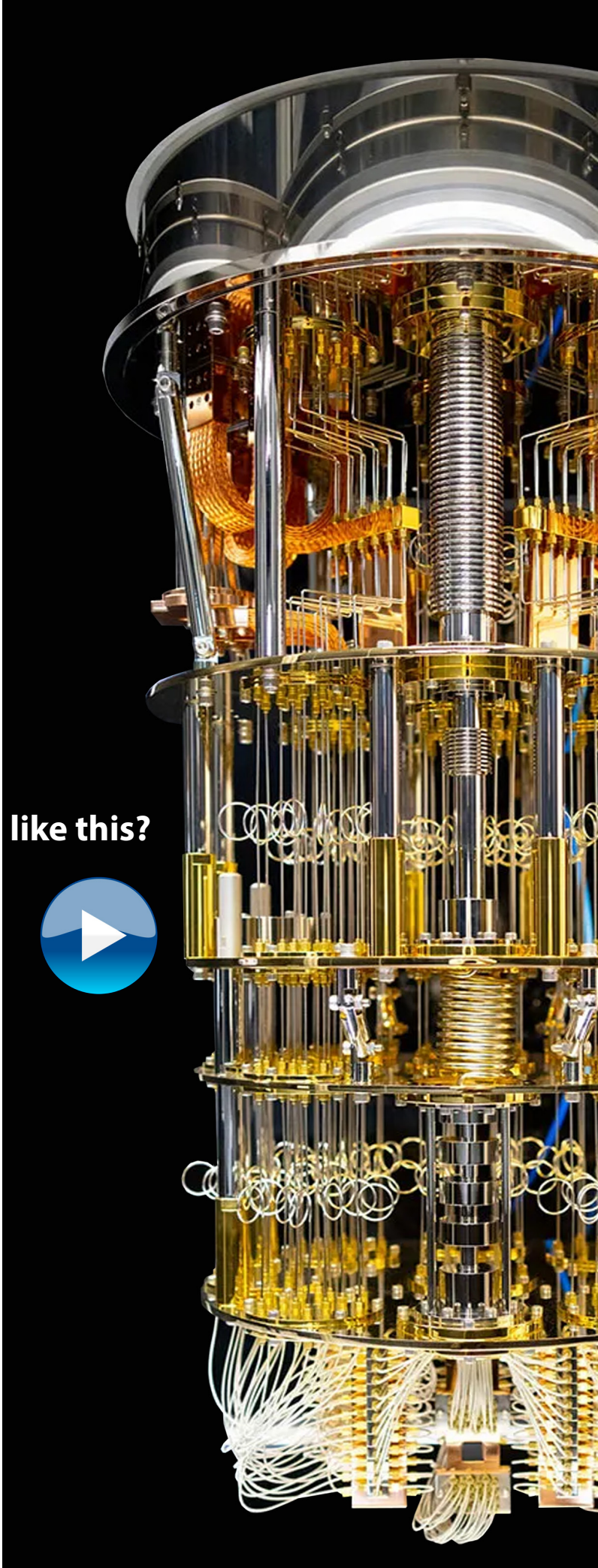


A qubit is fundamentally an abstract mathematical concept. While we often think of classical bits as physical switches that are either on or off, qubits exist in the realm of mathematics first, with physical implementations being approximations of this mathematical ideal.[1]

This does not mean that a quantum computer simply tries every possible answer simultaneously and automatically chooses the correct one. Instead, carefully designed quantum algorithms use quantum effects to make some answers more likely and others less likely.

Quantum computers will eventually be uniquely useful for problems involving chemistry, materials science, optimization, cryptography, and complex simulations. Scientists could use quantum computers to model molecules and chemical reactions that are extremely difficult for traditional computers to simulate accurately.

Why do Quantum computers look like this?



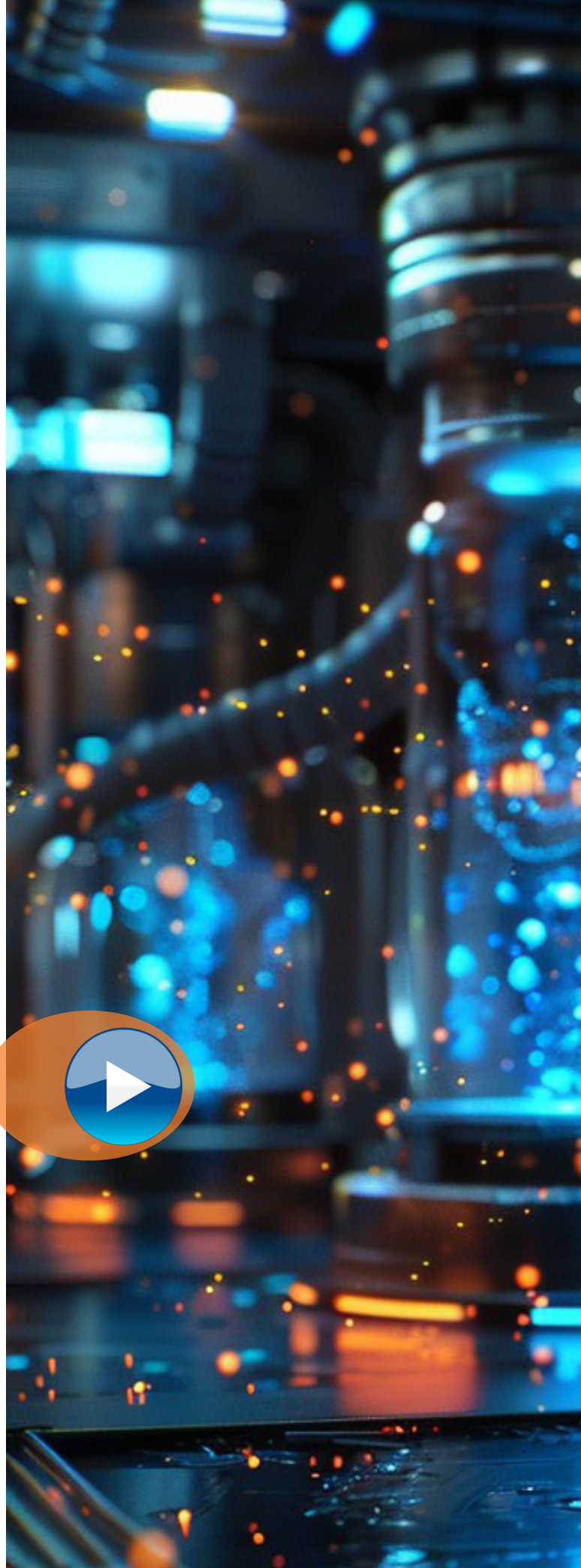
Quantum computers are not replacements for traditional bit computers, which are much better for everyday tasks such as browsing the internet, writing documents, playing video games, managing databases, and running business software. Quantum computers are specialized machines designed for particular types of difficult computational problems that otherwise may take years or decades to solve.

There is also a major difference in engineering whereas traditional computers use electronic components

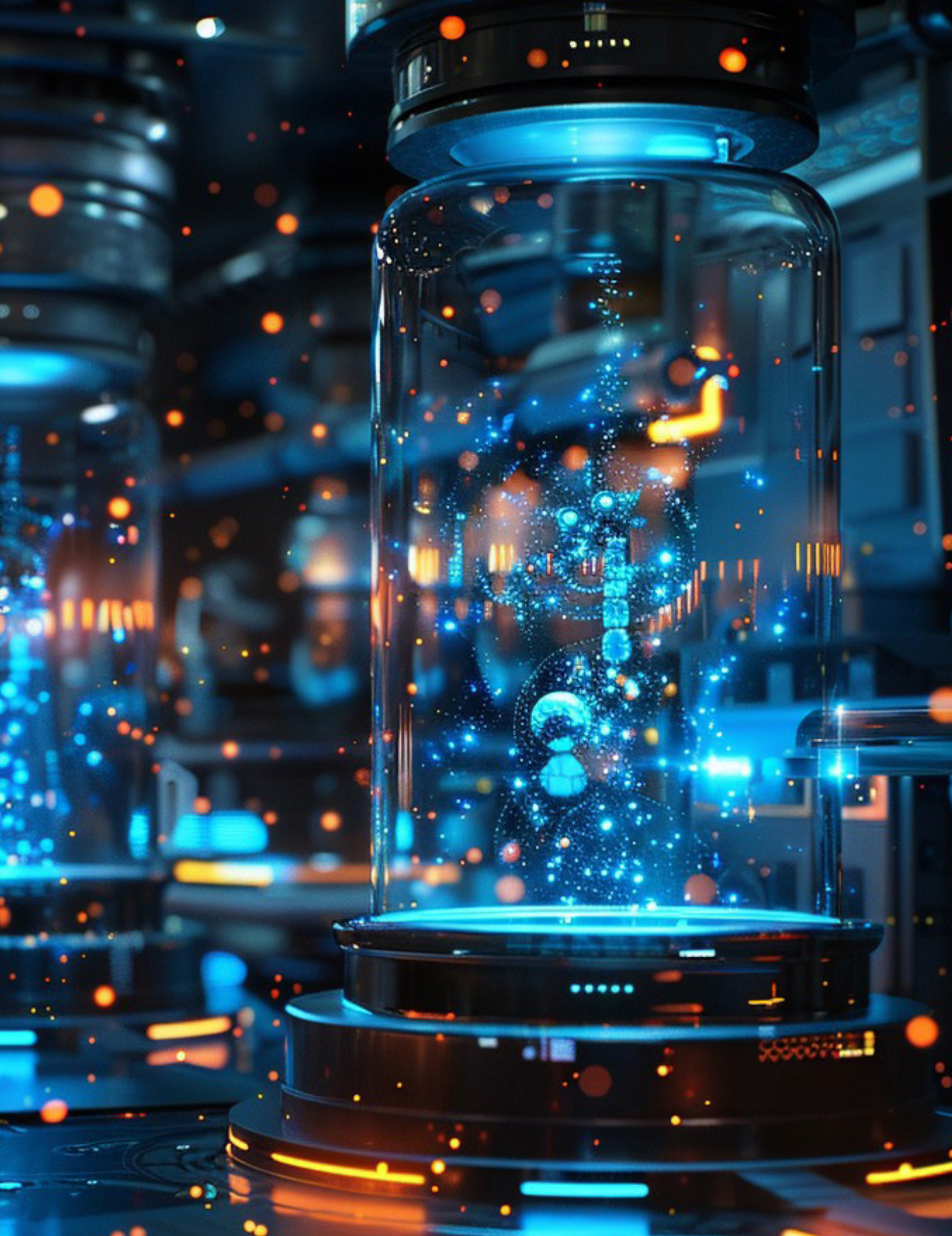
such as transistors and can operate in ordinary environments. Most quantum computers require highly controlled conditions, including extremely low temperatures or carefully isolated environments, because quantum states are fragile and can be disrupted by outside influences such as vibration, temperature or electrical charges.

The future will certainly involve both technologies working together, while traditional bit computers can handle everyday personal and business computing. Quantum computers will tackle specialized, very complex problems requiring enormous computational power, while handling information differently with the ability to evaluate huge amounts of data very quickly.

Take a deeper look in this video ...



1. https://medium.com/@thisara.weerakoon2001/qubit-the-mathematical-foundation-of-quantum-computing-123fceef7725





Getting to Know Your Students
to Personalize Learning and Reduce Stress

By Dr. Judy Willis

We best serve our students by providing opportunities for them to explore and develop their own ongoing sources of motivation and resilience. Kidwatching is an intentional observation strategy that lets us recognize their unique strengths and interests (Goodman & Owocki, 2002). By incorporating elements of their strengths and interests into your lessons, you will better be able to keep their brains primed for successful learning.

Individualizing teaching to meet the needs of all students can seem daunting and almost impossible for a single teacher with 35 students or a secondary school teacher with 100 or more students a day. However, you can add elements of individualization, especially if you initially focus on a few students who seem to have the zoning- or acting-out behaviors that reflect higher stress.

Kidwatching is a dynamic undertaking, as individual students engage and interact with the learning processes. Students' actions, interactions, and responses go on whether we notice or not. We don't respond to what we don't observe, and so we miss those opportunities to gain insight into our students' strengths and challenges. So as not to lose information you can use to individually support students when needed, you can create a quick-access note-card

of kidwatching observations that will become motivators for each student.

I suggest starting slowly. Instead of thinking of the task as all or none, keep a pad handy on which to note down student comments or casual conversations in which students reveal special interests, pleasurable activities (with parents, friends, sports), awards or honors outside of school, and even the names of pets or their soccer teams.

You can keep these notes in a general file. When you have time, every few weeks, add your pertinent insights to a file card with the student's name. As time goes on and you reflect on your kidwatching cards, you will likely find yourself making connections between students' learn- ing strengths and interests.

Your observations can lead to ways to engage students in new learning by helping them contextualize and connect the new information or experience with their positive past experiences and interests.

You could, for example, use the data you collect on students to create sample problems in a math lesson. The lesson will be of high interest to the class when they hear you enrich the problem with things you've learned about their classmates, including the names of siblings, sports they play, and organizations they're members of. Here's a specific example:

After finishing soccer practice with her team, the Falcons, Sofia had to babysit her younger brother, Felix, and their dog, Bingo. Her parents said that she





would need to watch Felix and Bingo for as long as it took them to drive 10 miles each way to drop off some groceries for her grandma. If they drive an average speed of 40 miles per hour and spend 10 minutes visiting with Grandma, how long will Sofia need to keep an eye on Felix and Bingo?

You can use your kidwatching insights to support students with their social and emotional development too. Before a unit that you expect to be challenging for a particular student, it can be helpful to highlight areas in which the student excels (e.g., group work, art, computer skills) to help build the student's confidence. For example, when introducing a challenging biography unit, you can emphasize the importance that design and illustration will have in the final presentation.

If students are having difficulty making friends, use your insights from kidwatching to let them know about opportunities that could help them feel more connected to school and classmates—for example, through clubs, school or class community service projects, or lunchtime mini-productions or sing-alongs. When the activities ensure inclusion, they help students see options, not roadblocks.

You can serve students even further by documenting and passing along your observations to those who follow you as their teachers. Sharing insights about each student's most powerful sources of engagement and personal relevance can only support them on their educational journey.

Dr. Judy Willis, a board-certified neurologist combined her 15 years as a practicing neurologist with ten subsequent years as a classroom teacher to become a leading authority in the neuroscience of learning. With her unique background as both in neuroscience and education, she has written ten books and more than 200 articles about applying neuroscience research to classroom teaching strategies.

https://radteach.com



Share this issue with your students, peers, parents and industry professionals you know. Make this a new monthly connection for curiosity, interaction, college prep and career development.

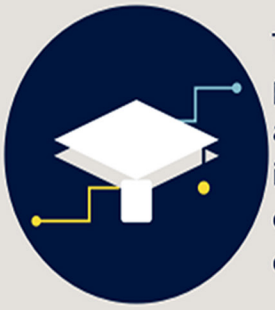
Many parents really enjoy this content as they too pursue their personal life-long learning goals.

Local industry and government leaders need to know about this resource as their future employees decide and prepare how to spend their careers.

2026-2027 COHORT

APPLY NOW →

PATHWAYS TO LEADERSHIP CERTIFICATE PROGRAM



TAG-Ed Pathways to Leadership (P2L) is a year-long virtual professional development program that provides mid-level tech professionals with the essential leadership skills and knowledge needed to thrive in leadership positions within the technology industry. Through interactive sessions, executive-level instruction, and peer collaboration, participants gain practical leadership strategies and technology-enabled tools to lead with confidence and influence.

IDEAL PARTICIPANTS

- Emerging and mid-level professionals with 3-10 years of experience
- Technology and business leaders
- Managers and team leads
- Entrepreneurs and innovators
- Professionals seeking leadership advancement

WHAT PARTICIPANTS GAIN

- Leadership communication strategies
- Executive presence and influence skills
- Technology-enabled management tools
- Frameworks for leading teams and change
- Expanded professional network and peer community

SESSIONS HELD WEDNESDAYS | 4:00 – 6:00 PM

September 15, 2026 2025-26 Cohort Graduation & 2026-27 Summit/Kickoff	**October 13, 2026** Tech-Enabled Personal Purpose Communication	**November 17, 2026** Harnessing Tech to Energize and Assure Presence	**December 15, 2026** Contextual Framing in the Digital Age: Leveraging Tech
January 15, 2027 Tech Tools for Efficient Project & Meeting Mgmt	**February 19, 2027** Leadership Development in the Tech Era	**March 19, 2027** Effective Team Leadership in a Tech-Driven World	**April 16, 2027** Tech-Enabled Personal Purpose Communication
May 14, 2027 Tech-Enabled Personal Purpose Communication	**June 18, 2027** Tech-Enabled Personal Purpose Communication	**July 16, 2027** Tech-Enabled Personal Purpose Communication	**August 18, 2027** Tech-Enabled Personal Purpose Communication

Empowering Georgia's Next Generation of Leaders



TAG | TAG-Ed Education Collaborative

GEORGIA PATHWAYS MAGAZINE

Georgia's most influential workforce development and STEAM magazine which is distributed monthly to over 62,000 individuals state-wide.

Readership:

- 68% Educators, K-12 Students, Parents, and School Administrators
- 16% Industry professionals
- 8% University professors and their students
- 8% Other interested individuals

Contact Us:

For assistance with sponsorship, advertising, or other inquiries please contact tag-ed@tagonline.org

STANDARD ADVERTISING

Full Page Advertisements Only

- Front Cover: $950
- Inside Front cover: $550
- Back Cover: $375
- Resource Page: $50 / Issue

ARTICLE SUBMISSION PACKAGES

TWO PAGE FEATURE ARTICLE - $2500

- Full page ad included
- Hyperlink and embedded video capability
- Article title on cover
- Inclusion of programs, events, state initiatives, and efforts of note

TWO PAGE SPREAD ARTICLE - $1000

- Interior location
- Hyperlink capability

ONE PAGE ARTICLE - $1000

- Interior location
- Hyperlink capability

Beyond the New Tools:
The Adaptive Work of STEM Education



By Shelly A. Muñoz

There is something uniquely hopeful about the beginning of a school year. Floors shine. Classroom doors open again. Teachers reorganize spaces, learn new technologies, study new standards, and imagine what might be possible for the students who will soon fill their classrooms.

In STEM education, that hope often takes a familiar shape: What's new? A new robotics kit. A new science curriculum. A new AI platform. New materials, new dashboards, new devices, new standards.

These things matter. They can expand opportunities for students and give educators powerful new ways to teach, design, investigate, and create. But this year, it's worth asking a different question: What if the most important changes we need to make in STEM education cannot be purchased, installed, scheduled, or implemented?

That question sits at the heart of a distinction Ronald Heifetz's work on adaptive leadership made influential in education: the difference between technical change and adaptive change.

Some Problems Need Better Tools

Technical challenges are generally clear and identifiable. The problem can be diagnosed, expertise exists, and there is a reasonable solution. Do students need access to updated technology?





Purchase or redistribute devices? Do teachers need training on new equipment? Updated standards materials? Technical change asks: What do we need to do differently?

Some of the biggest challenges facing STEM education today aren't technical problems at all, but adaptive ones.

Some Problems Require Us to Change

Adaptive challenges are different because the solution isn't already known. They require learning. They ask us to examine beliefs, assumptions, habits, relationships, and systems — work that can't be handed to teachers in a binder or solved in a single professional development day, because it has to be owned by the people inside the system.

Consider a few of the questions facing STEM educators right now:

- How do we maintain student curiosity in a world where answers are instantly available?

- How do we help students become thinkers rather than consumers of information?

- How do we ensure students who have historically felt excluded from STEM begin to see themselves as mathematicians, scientists, engineers, and innovators?

- How do we move classrooms from chasing the correct answer toward classrooms that chase the right question?

There is no device that solves those problems. No single curriculum adoption answers them. They require us to reconsider not only what we teach, but what we believe about teaching and learning. Adaptive change asks a deeper question: ***Who do we need to become?***

The Difference Matters — A Closer Look

A few years ago, a middle school science team I worked with decided their students needed to become better problem solvers. Their first move was a technical one, and a reasonable one: they built a makerspace, purchased an engineering curriculum, and trained teachers on a new design-thinking protocol.

Six months in, the room was in constant use — but something was still missing. Students followed the protocol step by step, but they routinely stopped at the first checkpoint and waited for a teacher to confirm they were "doing it right" before moving on. The space had changed. The habits inside it hadn't.

So the team asked harder questions....

...do students get to solve problems the teacher doesn't already have an answer for? What happens in this room when a student fails? Who does most of the thinking here — and whose ideas actually get heard? Are students rewarded for being correct, or for revising, questioning, and trying again?

Answering those questions honestly meant changing how teachers responded when a student got stuck — resisting the urge to rescue, and instead asking, "***What have you tried, and what's another option?***" It meant redesigning tasks so there wasn't one right answer to confirm. Small moves, but they were adaptive ones: they asked adults to change a habit, not just a room.

That's the pattern worth naming. The makerspace was never the real challenge. The culture around it was. And culture can't be installed — it has to be built together, in the small daily decisions teachers make about who gets to think.

AI Makes This Distinction Even More Important

Nowhere is the difference between technical and adaptive change more visible right now than with artificial intelligence. The technical questions matter: Which tools should students use? What policies should schools set? How should teachers identify inappropriate use? Which platforms protect student privacy? Schools need to answer these.

But they're only the beginning. The adaptive questions are larger — and harder to legislate with a policy document:

- What is the purpose of learning when information is instantly available?
- What thinking should remain distinctly human?
- What does authentic student work look like when AI can generate essays, solve equations, write code, and produce images in seconds?
- How do we teach students to use powerful technologies while still building curiosity, judgment, persistence, and wisdom?

Those questions require conversations about what we value — not just what we permit.

STEM Has Always Been Adaptive

In many ways, STEM educators are uniquely prepared for this moment. Science begins with questions. Engineering begins with problems.

Mathematics searches for patterns. None of these disciplines assumes the first solution is the final one. STEM is built around iteration: hypothesize, test, collect evidence, discover what didn't work, revise, try again. Perhaps we should give ourselves permission to approach educational change the same way. We don't need every answer before students arrive. We need to be willing to learn alongside them.

A Back-to-School Challenge

As you begin this school year, make two lists. On the first, name the technical work your STEM program needs: new materials, better scheduling, professional learning, updated technology, stronger assessment tools.

On the second, name the adaptive work. What belief needs to change? What assumption should be questioned? Where could students have greater ownership? Whose voices need to be included? Where has curiosity quietly been replaced by compliance? Then do one more thing: pick a single item from the second list, and identify the one habit — yours, or your team's — that would have to change first. Not the whole culture. One habit. That's where adaptive work actually starts.

The first list may help you improve your program. The second may transform it. But only the third step — the one habit, chosen and practiced — turns the list into change.

This year, let's still build robots, launch rockets, investigate ecosystems, and explore what AI makes possible. But let's remember that the future of STEM education won't be decided solely by the sophistication of the tools we place in students' hands. It will be shaped by the curiosity we protect, the belonging we create, and the courage we build to change alongside our students — one habit at a time.

Shelly A. Muñoz is a Culturally Responsive Instructional Leadership Lead supporting Minnesota educators through MDE's COMPASS initiative, a nationally recognized STEM educator, author, and presenter with 30 years of experience in science and STEM education. Throughout her career, she has served as a classroom educator, STEM curriculum coordinator, education consultant, and systems-level leader, building programs, partnerships, and learning experiences that expand opportunities for students and strengthen STEM teaching and learning.

She is the author of Architects of Cognitive Resilience: Reimagining Learning in the Age of Artificial Intelligence, which challenges educators to consider what it means to prepare young people not simply to use emerging technologies, but to remain curious, adaptive, innovative, and deeply human in a rapidly changing world.

New Study Offers Fresh Perspective on ADHD Medications

By Andrew Fuchs PharmD

Stimulant medications like Adderall and Ritalin have been a common treatment for ADHD symptoms for many years. Across the Tri-State area, a growing number of families are dealing with challenges around focus, impulsivity, and restlessness, and these medications have helped many of them.

A recent study published in the journal Cell by researchers at Washington University School of Medicine is providing some new insights into how these drugs actually work. The researchers analyzed brain imaging data from nearly 5,800 children and found that the medications mainly activate areas involved in wakefulness and reward, rather than directly targeting the attention circuits many had assumed.

In other words, the medications work by boosting alertness and enhancing the brain's sense of reward and motivation. This combination often leads to noticeably better focus and engagement with tasks.

One of the more interesting findings is how closely the brain patterns from the medication resemble those seen after a good night's sleep. The study also noted that sleep-deprived children without ADHD often showed similar improvements on stimulants as children with the diagnosis. This suggests that sleep may play a much larger role in attention difficulties than we often realize.

For people already taking these medications, it can be helpful to pay attention to sleep quality as well, since the stimulants may mask some of the effects of not getting enough rest.

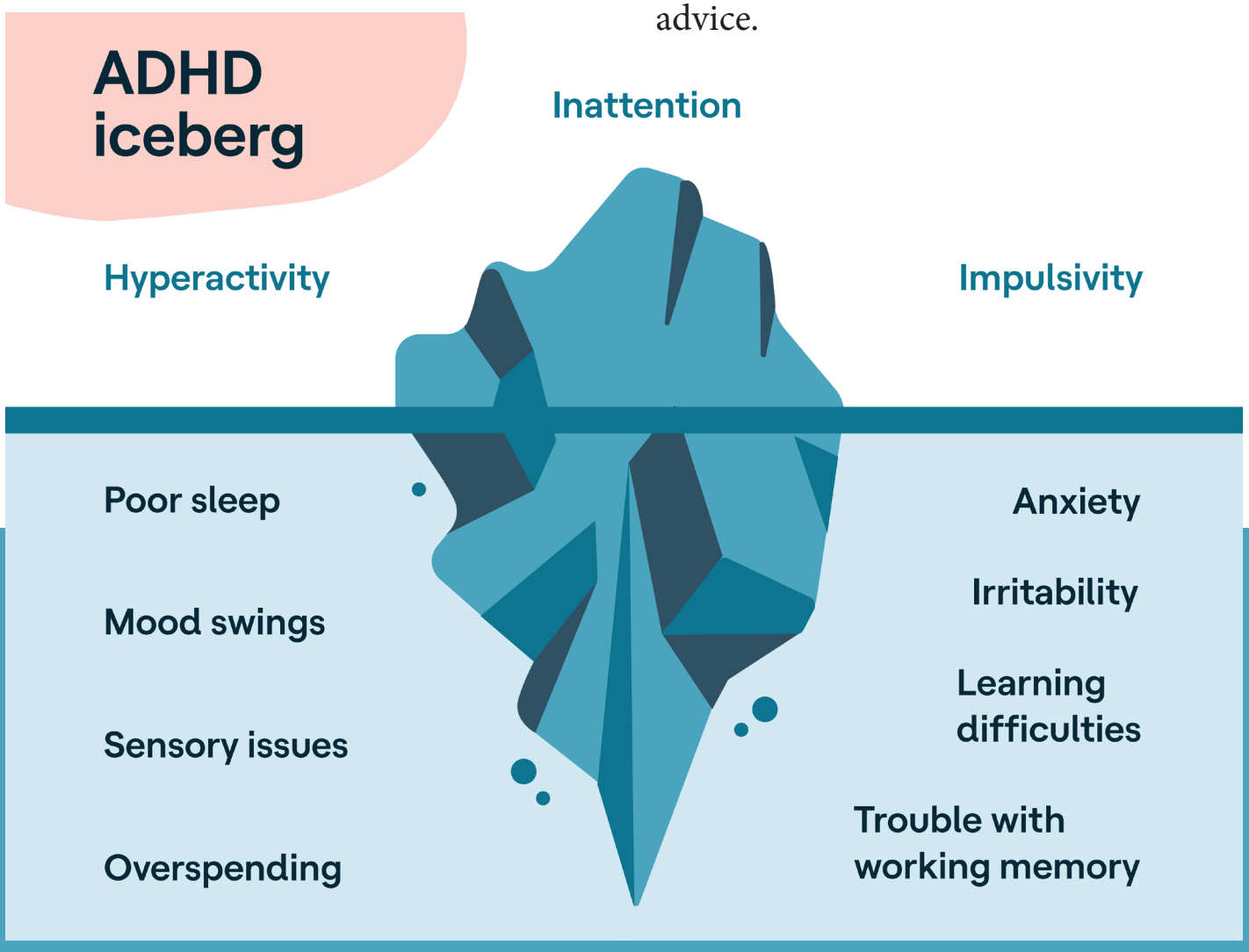
Long-term safety data continues to develop, but in the meantime regular monitoring is standard practice. This typically includes periodic checks on heart health along with dose adjustments to keep treatment effective and well-tolerated. Providers generally aim for the lowest effective dose, as higher amounts have been linked to increased risk of certain side effects.

Maintaining good communication with healthcare providers makes a big difference here. Regular follow-ups and honest discussions about how the medication is working, any side effects, and changes in daily life can help fine-tune treatment and catch issues early.

Many families have also faced challenges due to shortages of some of these stimulant medications over the last few years. That reality makes exploring other options even more important to ensure the condition is properly managed. Non-stimulant medications, patches, and some FDA-cleared digital therapies offer additional ways to approach treatment. These are often used alongside more traditional options to better fit individual needs.

This study helps paint a clearer picture of how ADHD treatments work and opens the door to more personalized approaches. Families in the Tri-State area now have additional information to discuss with their healthcare providers as they seek the best path forward.

Dr. Andrew Fuchs is director of practice experience and assistant professor of pharmacy practice at Touro College of Pharmacy. This article is for informational purposes only and is not a substitute for professional medical advice.



Creating Wondr:

An Artist Masquerading as a Gaming Executive

By Anika Howard

Building a Strong Foundation with STEAM Education

I made my theatrical debut in a classroom deep in the bowels of Washington, DC's long-closed National Aquarium. Proud parents cheered the premiere of a very creative Claymation movie depicting aquatic life through the eyes of me and my fellow first graders. It's a core memory. I can still smell the Play-Doh we used to craft the schools of fish, and I remember laughing as we moved everything forward, little by little, frame by frame. We scribbled our names in the sand at the end and watched in wonder as our creations moved across the screen like magic.

My parents saw that spark and nurtured it. Painfully shy and quiet as a child, I found comfort in patterns, structure, and symmetry, first through mathematics and then later through computers. My father, a mathematician, challenged me daily with everything from algebra to calculus, training my brain to think analytically. My mother, a free spirit, encouraged my creative pursuits. Together they built a world of experiences for me and my siblings: art, technology, science, and music. We were raised to be free thinkers, to value knowledge, to challenge the status quo, and to never be afraid to ask questions.

I gravitated toward engineering and computer programming while holding on to my passion for creative writing and music. It never occurred to me that those interests were supposed to be separate. Years later, I would build a career in an industry that proves they belong together.

The STEM Career Hiding in Plain Sight

I describe myself as an artist masquerading as a gaming executive. Gaming found me in business school, when Harrah's Entertainment (now Caesars Entertainment) came to campus to recruit for its President's Associate

program. My interests were pulling me toward the entertainment industry, specifically computer animation. What I discovered instead was an industry that needed every skill I had.

During my rotation at Harrah's New Orleans, I launched the property's grand-opening website as a passion project. When I shared my observations about all the ways technology could transform the guest experience, the SVP of Human Resources took notice. After a series of interviews, I was off to Las Vegas, hired as Harrah's first interactive employee: a corporate internet marketing manager and a team of one. Hospitality was a high-touch, personal business, and most of the industry could not yet see technology's place in it.

My first major assignment was a classic systems problem. Each casino had its own website, built differently, managed differently, telling players different things. My job was to visit and work with every casino, understand their needs, and design a centralized platform that served all of them without erasing what made each one unique. It involved requirements gathering, systems architecture, and change management. Nobody specifically called it engineering, especially me, but, in theory, that is what it was. What started as one person grew into a critically important department, critical to the company's



success and future growth.

The skills transferred everywhere I went. At IGT, I led the team that took state lotteries from paper tickets at retail counters to websites and mobile apps, launching iLottery in Illinois State Lottery and later the Georgia Lottery. I went on to help launch mobile sports betting in Las Vegas with MGM, shortly before the Supreme Court decision that opened sports wagering across the country. Behind every one of those launches sat the same disciplines

a student might study today: software development, data analytics, user experience design, cybersecurity, and the regulatory technology that keeps highly regulated products compliant across jurisdictions.

Full Circle: The Business of Wonder

Today, as President and CEO of Wondr Nation, my initial vision from business school has become a reality. It is the culmination of all my passions, and I am proof positive of the changing times.

Women represent a substantial and growing portion of the global gaming audience. We play across platforms, genres, and communities, influencing trends and driving engagement in meaningful ways. Despite this reality, women remain underrepresented in executive leadership, creative direction, and investment decision-making across the gaming landscape. This disconnect between who games are for and who builds them reveals a deeper issue, one that limits both cultural relevance and business growth.

What Inclusive Leadership Looks Like in Practice

In practice, the gaming industry has a perception problem and a pipeline problem, and they feed each other.

Opportunities in gaming are infinite and much broader than people assume. From core technical careers like game engineering, MIS, data science and analytics, and AI and machine learning to platform and iGaming and online sports betting engineering, security, compliance, and UX research, design, and development, the possibilities are endless.

Gaming was not always viewed as a STEM career path and as a result, the industry drew from a narrower pool and produced what I call a sea of sameness: similar products, built by similar teams, for an audience far more diverse than the people designing for it. However, this is changing every day.

When I evaluate new game concepts and formats, I bring younger team members into the room deliberately, because they live and breathe the experiences we design for and keep a finger on the pulse of what is relevant today. The best insight on an emerging format will come from someone who grew up inside it. I make sure that everyone understands our financial and organizational goals, how to read and interpret our financials, and the context and rationale for why and how we make decisions. I want an informed, empowered, and included team. I learned the value of exclusion firsthand.

For much of my career I was the first, the only, or the different person in the room, and it is a lonely way to work. That experience is why I co-founded African Americans in Gaming, to build the network I wished had existed when I was finding my footing. Inclusion in leadership means making sure the next generation spends less energy surviving the room and more energy changing it.

My story has come full circle, and I feel strongly about starting early. Every time I see a young person light up in front of a project they built themselves, I am back in that aquarium classroom, moving clay fish one frame at a time. I fell in love with technology as a child because it was the great equalizer. It didn't care who you were or where you came from. If you learned it, you could compete.

I am a situational extrovert, so I know what it feels like to be lonely in a crowded room, and I know the joy of being completely seen and accepted. You do not have to choose between the analytical and the creative. The gaming industry needs mathematicians and storytellers, coders and artists, analysts and dreamers, and it especially needs the ones who have never seen themselves in it before.



Anika Howard is President and Chief Executive Officer of WONDR NATION. Responsible for managing all facets of the company, Anika drives and influences the strategic vision, mission, operations, and company culture. Passionate about how tech innovation and creativity can transform player experiences, Anika is widely recognized for her vision and ability to profitably drive gaming companies and products into evolving territories.

As an award-winning industry veteran with over 20 years of experience, Anika has worked at some of the most notable players within the gaming space where she focused primarily on the development of interactive products and experiences.

Anika sees technology as a great equalizer and a way to bring people together. She is an advocate for diversity, equity and inclusion and uses her influence to amplify diverse voices to ultimately create a more dynamic and thriving industry.

Accelerate Your Career with AI Certification



Start with the Microsoft Azure AI Fundamentals courses where you'll learn the foundation of modern artificial intelligence (AI) and machine learning (ML). This will enable you to recognize common applications of AI and identify the available AI services in Microsoft Azure.

- 4 Week Course | 10 hours/week
- 100% Online, Instructor led
- Equipped to pass the AI-900 exam
- Exam voucher included
- Price: $750



Once you have the fundamentals or programming experience, you can be eligible for the Microsoft Azure AI Solutions course. This is where you'll gain a comprehensive understanding of the of the responsibilities encompassing the design, deployment and maintenance of AI solutions.

- 8 Week Course | 8-10 hours/week
- 100% Online, Instructor led
- Equipped to pass Azure AI Associate AI-102 exam
- Exam voucher included
- Price: $2,400

Ask About Bridge Builders Scholarship: TAG Bridge Builders and SkillStorm are committed to promoting equity and diversity in the workforce. Apply for a scholarship tailored to serve minorities in Georgia who are looking to advance their tech careers.

Sign up for a course today!

SKILLSTORM

SKILLSTORM

AI Skills: The New Currency in Today's Job Market

The AI revolution is here. Ever since ChatGPT arrived on the scene in late 2022, artificial intelligence has been reshaping the way we live and work. What does that mean for tech professionals looking to compete in a changing labor market?

TV pundits and talking heads love to get riled up about whether robots are coming for our jobs — but the truth is that AI will probably create more jobs than it eliminates. And one thing's for sure: understanding how AI works, and mastering AI skills, will be the key to success in tomorrow's ever-changing world of work.

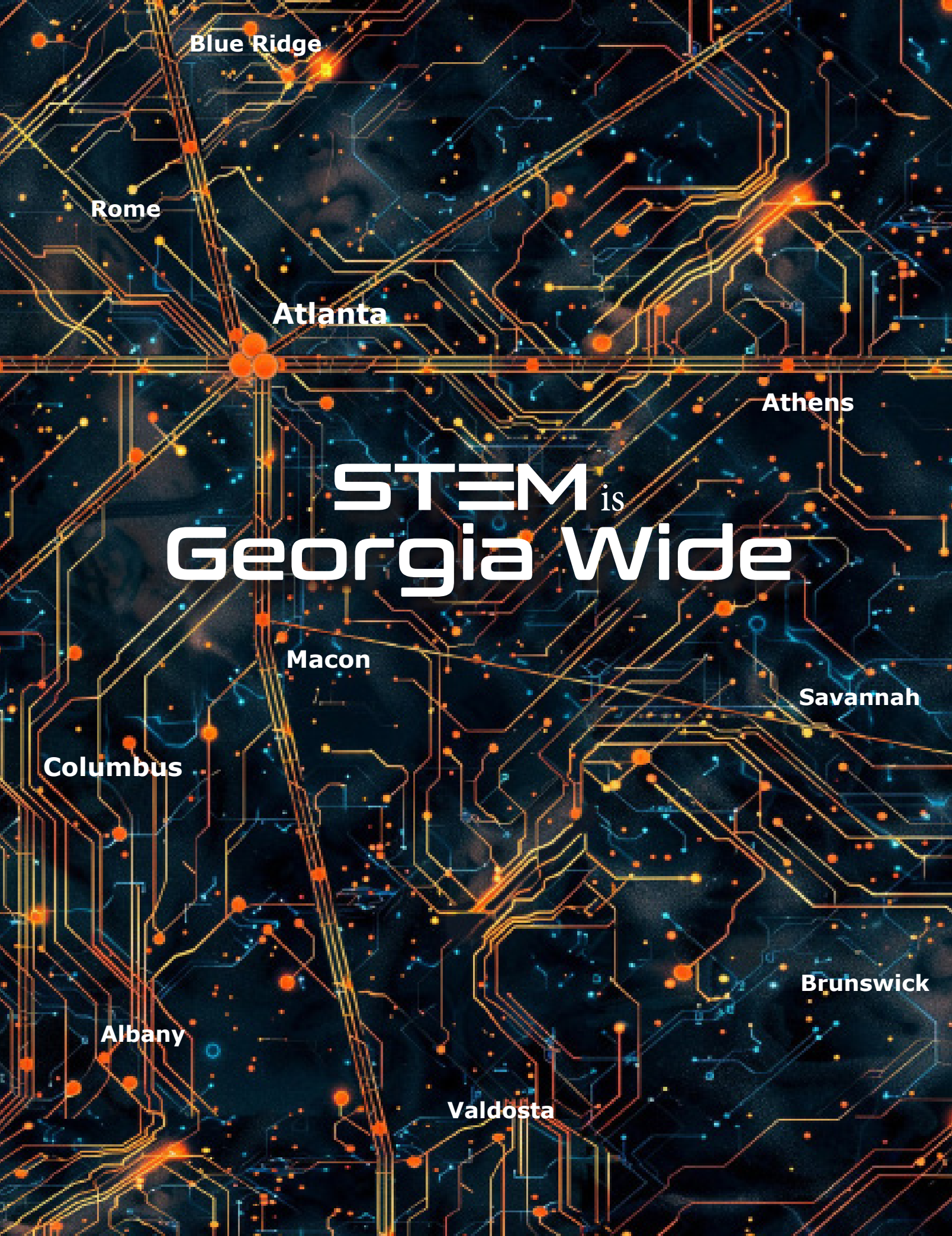
New research shows that a growing number of companies are asking for AI skills in job descriptions — including non-tech roles. And a survey of HR professionals released last month shows that job candidates with AI skills ask for more money during the interview process — and tend to get it once they're hired. Simply put, AI is going to be underpinning nearly every job out there. That's why staying ahead of the latest in AI development is so important.

Building AI skills doesn't just mean learning how to engineer prompts for ChatGPT. It's everything from programming to data modeling and analysis to mastering concepts like machine learning and natural language processing. And if there's anything certain in our fast-paced economy, it's that building AI fundamentals today will translate to career opportunities tomorrow and beyond.

That's where SkillStorm comes in. In partnership with TAG, we offer Microsoft Azure AI courses that are instructor-led, career-aligned tech certification courses and will help you build the AI skills that employers need. From the basics of AI and machine learning to a comprehensive understanding of how to design, deploy, and maintain AI solutions, you'll learn everything you need to accelerate a career in the economy's hottest fields.

It won't be long before all kinds of jobs, all across the economy, require AI skills. And starting now is the best way to accelerate your ascent up the career ladder. Build those skills today and you'll lay the foundation for opportunity for years to come — and set yourself up for success in an AI-driven future of work. Register today to get started with a career in tech.




Blue Ridge
Rome
Atlanta
Athens
STEM is
Georgia Wide
Macon
Savannah
Columbus
Brunswick
Albany
Valdosta