



MIDDLE TENNESSEE
STATE UNIVERSITY®

TENNESSEE STEM EDUCATION CENTER

TSEC CONNECTIONS

CONNECTING EDUCATORS. EMPOWERING LEARNERS. SHAPING THE FUTURE.

IN THIS ISSUE



OUTREACH & IMPACT

See how TSEC is connecting students, educators, and communities through programs and partnerships across Tennessee.



PROFESSIONAL LEARNING

Explore recent workshops and learning opportunities designed to support educators with practical tools, strategies, and resources.



RESEARCH & INNOVATION

Discover how TSEC is advancing STEM education through research, collaboration, and innovative approaches to teaching and learning.

BUILDING MOMENTUM. EXPANDING IMPACT.

From new leadership and professional milestones to educator development, research, and regional partnerships, TSEC continues to grow its impact while creating opportunities for the people and communities we serve.

STAY CONNECTED. GET INSPIRED. MAKE AN IMPACT.



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MIDDLE TENNESSEE STEM INNOVATION HUB Advisory Council Meeting

— Collaborating Today. Inspiring Tomorrow. —



On May 14, 2026, the Middle Tennessee STEM Innovation Hub convened its Advisory Council at Middle Tennessee State University, bringing together educators, MTSU faculty, district leaders, and regional partners to share perspectives on STEM education across the region.

The meeting opened with updates and highlights from representatives of **Clarksville-Montgomery County Schools**, **Metro Nashville Public Schools**, **Rutherford County Schools**, **Sumner County Schools**, and **Wilson County Schools**. Representatives shared examples of STEM programming, current initiatives, and approaches being used to expand opportunities for students and educators within their districts.

The second half of the meeting focused on “Partnering for Impact: K-12 Needs and Priorities,” giving council members an opportunity to discuss emerging needs, challenges, and opportunities for collaboration. The conversation helped identify areas where regional partnerships and shared resources can strengthen STEM teaching and learning throughout Middle Tennessee.

Operated through the Tennessee STEM Education Center, the Middle Tennessee STEM Innovation Hub serves as a connector among school districts, educators, higher education, industry, and community partners. The Advisory Council plays an important role in helping the Hub remain responsive to the needs of schools while creating opportunities for collaboration and continued growth across the region.

MEETING HIGHLIGHTS



SHARE

District updates and STEM highlights

Representatives shared current initiatives, successes, and opportunities from across Middle Tennessee.



DISCUSS

K-12 Needs & Priorities

Council members identified emerging needs, challenges, and areas where additional support is needed.



COLLABORATE

Regional Partnerships

The discussion focused on opportunities to connect resources, expertise, and partners across the region.



Thank you to our Advisory Council members and regional partners for sharing your insights, experiences, and ideas as we work together to strengthen STEM education across Middle Tennessee.



GROWING THE NEXT GENERATION



of Agriculture Leaders



NEXTGEN POSITIVE YOUTH DEVELOPMENT CONFERENCE



In May, high school students from across Tennessee gathered at Tennessee FFA Camp Clements for the Positive Youth Development Conference, a three-day experience focused on agriculture, leadership, skill development, and career exploration.

Students participated in interactive sessions, team challenges, and activities designed to build confidence, communication, and problem-solving skills. During an Agriculture Shark Tank activity, teams developed and presented agriculture-related ideas, giving participants hands-on experience in collaboration and public speaking.



The Camp Clements setting also gave students opportunities to connect with peers from across the state and build relationships beyond formal sessions. Shared activities helped create a sense of community while encouraging students to learn from one another and broaden their perspectives.



In partnership with Tennessee State University (TSU), TSEC helped support the conference through the USDA-funded From Learning to Leading: Cultivating the Next Generation of Diverse Food and Agriculture Professionals (NextGen) project, award no. 2023-70440-40157.

TSU serves as the lead institution for the \$18 million NextGen project, with Middle Tennessee State University participating through a \$900,000 subaward. The initiative supports scholarships, experiential learning, and outreach efforts that prepare the next generation of professionals in food, agriculture, natural resources, and human sciences.

Grant support covered registration, meals, lodging, and transportation, helping make the conference accessible to students from across Tennessee.

Through experiences like this, TSEC continues to help young people build skills, explore career pathways, and envision their future in agriculture.



National Institute of
Food and Agriculture
U.S. DEPARTMENT OF AGRICULTURE

TEACHING FOR TOMORROW



Innovative Educator Workshops Equip Teachers with Practical Strategies for Today's Classrooms

This summer, the Middle Tennessee STEM Innovation Hub at Middle Tennessee State University hosted two Innovative Educator Workshops focused on practical strategies educators can use in today's classrooms. From connecting classroom learning to future careers to exploring meaningful uses of artificial intelligence, both workshops gave educators opportunities to strengthen their practice, discover new resources, and support more engaging learning experiences for students.

JUNE 9, 2026

Connecting Classroom Learning to Careers

Connecting Content to Careers With
Learning Blade's Free Resources

Facilitator: John Mullin
Tennessee State Manager for
Learning Blade

Educators explored ways to help students see the connection between what they learn in the classroom and the opportunities available to them beyond school.

- Connect STEM, computer science, and CTE content to careers
- Build student curiosity and career awareness
- Use Learning Blade's free, ready-to-use resources
- Strengthen classroom conversations about future opportunities

“This workshop gave me ready-to-use ideas to help my students see why what they learn today matters tomorrow.

— Workshop Participant

JUNE 11, 2026

Using AI with Purpose

Beyond the Tool:
Practical AI Strategies for Teaching
and Learning

Facilitator: Claire Williams McGee
District Lead STEM Coach
Metro Nashville Public Schools

Educators explored practical ways to use AI to support planning, feedback, and student engagement. The session focused on teacher-friendly tools and strategies that could be immediately applied in the classroom.

- Use AI to support planning and instruction
- Streamline feedback and save time
- Explore strategies to enhance student engagement
- Make informed choices about useful AI tools

“I left with tools and strategies I can use right away to make my teaching more efficient and my students more engaged.

— Workshop Participant



TWO WORKSHOPS. ONE GOAL.

Both workshops focused on giving educators practical strategies, resources, and ideas they can use to create more meaningful and engaging learning experiences for students.



PRACTICAL. RELEVANT. READY TO USE.

Educators left with tools and strategies designed to support immediate classroom application.



STAY CONNECTED.

Watch for upcoming Innovative Educator Workshops and professional learning opportunities from the Middle Tennessee STEM Innovation Hub.



The Middle Tennessee STEM Innovation Hub, operated by the Tennessee STEM Education Center, has received a \$35,000 Battelle grant for FY 2026–27, with Dr. Kevin Ragland serving as principal investigator for the project. Through ongoing professional learning opportunities, the Hub helps educators stay connected to emerging practices, resources, and ideas that support their continued growth.



TSEC Annual Retreat 2026

Strengths, Strategy, and Teamwork

The Tennessee STEM Education Center gathered on August 19 at the MTSU Foundation House for its 2026 Annual Retreat, bringing together faculty, staff, and campus partners for a day centered on reflection, collaboration, and professional growth.

A major focus of the retreat was a CliftonStrengths session led by Dr. Kristopher Elliott, Vice Provost for Extension at Oregon State University and a Gallup Certified Strengths Coach. Participants explored their individual strengths and discussed how those strengths can be used more intentionally in teamwork, leadership, communication, and collaborative projects.

The team also took part in “Operation TSEC: The Mole,” a community-building challenge where groups worked together to complete a series of tasks while trying to identify a hidden team member attempting to sabotage their progress. The activity brought plenty of laughter and friendly competition while reinforcing communication, trust, problem-solving, and teamwork.

Strategic conversations throughout the day connected the team’s work to broader priorities. Dean Greg Van Patten shared College of Basic and Applied Sciences updates and strategic priorities, while Brandi Stroecker, Managing Director of Programs and Partnerships at Battelle, shared updates on current Tennessee STEM Innovation Network initiatives and horizon scanning.

Dr. Gregory Rushton led a session focused on TSEC’s next chapter, encouraging the team to consider what the Center should preserve, where it can grow, and what new ideas may be worth exploring.

The retreat gave the TSEC team valuable time to reconnect, reflect, and move forward with a stronger understanding of individual strengths and shared priorities.



Supporting Innovation Across Projects

TSEC Project Management Services helps faculty and project teams move initiatives from proposal to implementation, dissemination, and impact.

TSEC Project Management Services plays an important role in helping projects across MTSU move forward with purpose and efficiency. Through coordination, communication, planning, and administrative management, the team helps faculty and project teams keep complex grant-funded initiatives organized, responsive, and positioned for impact.

ACT-STEM (Advancing the Culture of Teaching in STEM) recently completed Year 2 and is moving into Year 3. The next phase will emphasize leadership development while the team continues promising dissemination efforts. This summer, project members presented their work at the Self-Determination Theory Conference in Geneva, Switzerland.

LEADS (Leaders in Education Advancing Data Science) is also entering Year 3. The Master Teaching Fellows are now halfway through earning their Ed.S. degrees, an important milestone in their development as teacher leaders in data science. Team members also presented at the Noyce Conference this summer.

ITREKS (Improving Teacher Retention and Effectiveness through Knowledge Sharing) is finishing its first year and preparing for a major data-collection phase. The project will gather information from MTeach alumni at MTSU and partner alumni across nine institutions to build a broader picture of STEM teacher retention and effectiveness.

GWEP (Geriatrics Workforce Enhancement Program). During Year 2, 47 RNs in cohort 1 completed the apprenticeship. The focus for Year 3 is on cohort 2, updating education modules for continuing education credit, and delivering virtual dementia tours at the university.

PROPS4DBER is finishing Year 3 with a strong emphasis on dissemination, including four current dissemination efforts. All four postdoctoral scholars connected to the program have also transitioned into new full-time positions: Alyssa at The Ohio State University, Mary at the University of Kentucky, Cassie at California State University San Marcos, and Andrew at Oxford College of Emory University.

NRT-QISE-AI reached a major milestone on August 21 when the project welcomed its first cohort of trainees during orientation. The new academic year will include interdisciplinary research, professional development, and mentorship.

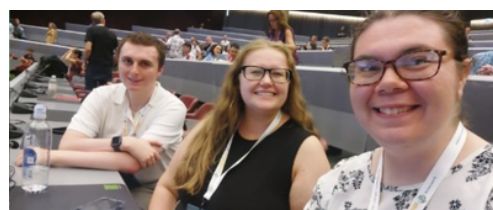
Liz Barnes' **CAREER** project is finishing Year 3 of their project on advancing the science communication skills of college science students. They have created psychometrically sound instruments to measure students' education outcomes and are actively building an instructional framework.

Project Management Services also contributes at the earliest stages of new work. As **Dr. Angela Google** transitions from Rhode Island to MTSU, the team is supporting her general pre-award efforts. This fall, Project Management Services has also joined **MTSU's AI Community of Practice** as the group gets underway.

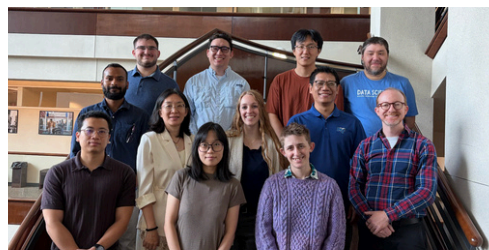
Together, these projects demonstrate the range of support TSEC Project Management Services provides from early planning and project launch to implementation, dissemination, and closeout. Behind the scenes, the goal remains the same: help innovative work stay on track and move toward meaningful outcomes.



LEADS team members shared project work through conference presentations this summer.



ACT-STEM team members shared their work at the Self-Determination Theory Conference.

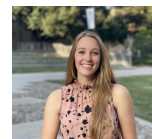


The NRT-QISE-AI project welcomed its first cohort during orientation on August 21.



PROPS4DBER postdocs were celebrated at a goodbye banquet as they transitioned into new full-time positions.

Project Manager



**Aspen
Malone**

*Taking care
of the details
so you can
lead the
research!*

From proposal planning to dissemination, Project Management Services helps move complex work forward.



A New Chapter for Dr. Gregory Rushton

After eight years of leadership, Dr. Gregory Rushton will be stepping down as Director of the Tennessee STEM Education Center and return to the faculty as a Professor of Chemistry in MTSU's College of Basic and Applied Sciences.



Eight years of
leadership at TSEC



“His transition marks a new chapter for Dr. Rushton and TSEC.



Since becoming Director of the Tennessee STEM Education Center in 2018, Dr. Gregory Rushton has guided a period of significant growth for TSEC, expanding the Center's role in STEM education research, educator support, interdisciplinary collaboration, and externally funded projects across Middle Tennessee State University.

During his tenure, TSEC grew its external grants and contracts to more than \$1 million annually and expanded its capacity to support faculty pursuing sponsored research. Dr. Rushton mentored more than 10 faculty and staff members to their first externally sponsored awards, totaling more than \$4.5 million, while helping establish new structures and positions designed to strengthen research and project support across the university.

His leadership also helped shape the Center into a broader community for collaboration and professional growth. During his time as Director, TSEC established an Associate Director role, a Faculty Fellows program, leadership development opportunities for faculty and staff, and dedicated project management positions to provide pre- and post-award support for sponsored projects. The Center also secured additional and upgraded physical spaces as its programs, partnerships, and research activity continued to grow.

Beyond building infrastructure, Dr. Rushton has emphasized creating opportunities for people. His approach to TSEC leadership has centered on mentorship, collaboration, and helping faculty, staff, students, and partners develop the resources and relationships needed to advance their work in STEM education.

As he concludes his time as Director, Dr. Rushton will remain an important part of the MTSU community, returning his focus to teaching, research, and mentorship as a Professor of Chemistry in the College of Basic and Applied Sciences. His transition marks a new chapter for both Dr. Rushton and TSEC while building on the foundation established during his eight years of leadership.

TSEC extends its appreciation to Dr. Rushton for his leadership, vision, and commitment to the Center and the many faculty, staff, students, educators, and partners it serves.

DR. KEVIN RAGLAND

Named Interim Director of TSEC



The Tennessee STEM Education Center is excited to announce that Dr. Kevin Ragland will serve as Interim Director. Dr. Ragland currently serves as Associate Director of TSEC and as an Associate Professor of Animal Science at Middle Tennessee State University, and we are fortunate to have his experience, leadership, and commitment guiding the Center during this transition.

Dr. Ragland brings a strong background in STEM education, research, and partnership development. Through his work with TSEC, he has helped advance professional learning, outreach, research, and collaboration while creating meaningful opportunities for students and educators. His work reflects a thoughtful, practical approach to strengthening STEM teaching and learning.

A key part of his leadership has been his work with the Middle Tennessee STEM Innovation Hub, where he has helped build connections among school districts, educators, higher education, industry, and community organizations. These partnerships have expanded STEM learning opportunities and supported students as they prepare for college and future careers. Dr. Ragland has also contributed to federally funded initiatives that broaden participation in STEM and support professional learning for educators. His more than 15 years of teaching and mentoring experience further strengthens the perspective he brings to this role.

As Interim Director, Dr. Ragland will build on TSEC's existing programs, partnerships, and research while providing continuity and supporting the people who contribute to the Center's mission.

We are excited for this next chapter and grateful to have his leadership as TSEC continues to grow and serve the STEM community.

“

I am honored to serve as Interim Director of TSEC. Our work is about people, educators, students, and partners, collaborating to create meaningful STEM learning experiences that prepare learners for the future. I look forward to building on the strong foundation established by our team and continuing to grow our impact across the region and beyond.”

A Proud Moment for TSEC



Celebrating Aspen Malone and Lindsay Randolph and their achievement of earning their master's degrees from Middle Tennessee State University.



Balancing graduate school alongside full-time professional responsibilities is no small accomplishment. Aspen and Lindsay completed their programs while continuing to contribute to the work and growth of the Tennessee STEM Education Center.

Aspen Malone

Research Project Manager

MASTER OF BUSINESS ADMINISTRATION

Aspen plays a key role in the coordination and management of externally funded projects at TSEC. She works closely with faculty and project teams to ensure complex research initiatives run smoothly and successfully.

Her graduate studies strengthen the organizational, leadership, and management skills she brings to TSEC's growing research portfolio.



Lindsay Randolph

Center Coordinator

MASTER OF PROFESSIONAL STUDIES STRATEGIC LEADERSHIP

Lindsay supports TSEC's day-to-day operations, outreach, communications, events, and strategic initiatives. Her work helps connect the Center's team, partners, and the communities TSEC serves.

Her graduate work in strategic leadership builds on the collaborative and organizational skills she uses to support the Center's faculty, staff, students, and partners.



Their achievements reflect a shared commitment to professional development, lifelong learning, and continued growth. These values are central to the work of the Tennessee STEM Education Center.

Congratulations, Aspen and Lindsay!



Abstract Submission Now Open

21st Annual Southeastern STEM Education Research Conference

January 8–9, 2027 | Tennessee Tech University | Cookeville, Tennessee

The Tennessee STEM Education Center invites educators, researchers, and partners to submit abstracts for the 21st Annual Southeastern STEM Education Research Conference (SSERC). The conference provides a regional forum for sharing research, innovative practices, and ideas that advance STEM education across K–20 settings.

Hosted at Tennessee Tech University, SSERC 2027 will bring together scholars and practitioners committed to strengthening STEM teaching and learning through collaboration, scholarship, and professional exchange.



Priority abstract deadline: September 18, 2026



Final abstract deadline: October 2, 2026



Notifications:

Priority submissions by October 5, 2026 | Final submissions by October 28, 2026



Who Should Submit?

Faculty, graduate students, researchers, school and district leaders, classroom teachers, and STEM education partners are encouraged to submit proposals.



Stay Connected

If you would like to be added to the SSERC email list to receive deadline reminders, email tsec@mtsu.edu.



Registration Information: Registration opens October 5, 2026.

Early registration deadline: December 1, 2026. Final registration deadline: December 15, 2026.

Thank You to our TSEC Faculty and Staff!



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Lucas Davis, Student Worker

Ashlee Schafer, Student Worker
