PSSE November Updates

Our vision: All Pennsylvanians will have access to quality STEM education and career pathways to become tomorrow's leaders, influencers, and problem-solvers.



Lancaster County STEM Alliance: Transforming Education Through Authentic Learning and Career Connections

The Lancaster County STEM Alliance (LCSA) is a collaborative partnership bringing together education, business, nonprofit, and community leaders to strengthen STEM learning and workforce development across Lancaster County. By aligning education and industry, LCSA expands career exploration, supports authentic STEM learning, and creates pathways that inspire learners while meeting the current and future workforce needs of the community.

One of LCSA's core priorities is strengthening the connection between education and industry. **Through three signature initiatives: 1) Educator Externships, 2) Adopt-a-Middle School, and 3) Industry Design Challenges, LCSA ensures learning is relevant, real-world connected, and aligned with workforce needs**.

- **LCSA Educator Externships:**
  The LCSA Educator Externship Program helps teachers answer the question many students ask "When will I ever need to use this?"

  Each summer, local businesses host educators for immersive, hands-on experiences that provide firsthand insight into the skills and professional dispositions needed in today's workplace. Past participants have welded components, operated manufacturing equipment, explored sustainability operations, and worked in research laboratories. Teachers then bring those experiences back to the classroom - developing lessons and learning experiences that connect academic standards to real-world applications.

- **Adopt-a-Middle School:**
  Offered in partnership with New Tech Network, Adopt-a-Middle School is a professional learning program that helps educators design authentic, project-based learning for students. Now entering its fifth cohort, the program guides teachers in creating projects centered on personal relevance, community impact, and engagement with authentic audiences.

Students demonstrate individual understanding through written performance assessments while collaborating on team projects with local community partners. This year's cohort is working with forensic meteorologists, environmental lawyers, entrepreneurs, and poets - helping students see how classroom learning connects to opportunities beyond school.

- **Industry Design Challenges:**
  New this year, LCSA partnered with local businesses to bring authentic industry challenges directly into classrooms. **Participating employers submitted real problems they are currently working to solve**, and the LCSA team transformed those challenges into student-centered design experiences aligned with classroom learning.

  Student teams from IU13 school districts will develop solutions and present their ideas directly to employees from the partnering businesses - receiving authentic feedback while strengthening critical thinking, problem-solving, communication, and collaboration skills.

[Learn more about LCSA at lancasterstem.org]



Local educators at GSK Pharmaceuticals in Marietta, PA, participating in the LCSA Educator Externship Program.



Teachers from four IU13 school districts in discussion during training on the difference between "projects" and project-based learning.

The PSSE Newsletter will showcase a different STEM Ecosystem every month!

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From the Field - STEM in Action

PSSE Ecosystem Leaders Gather in Pittsburgh to Build Momentum for a Unified STEM Future

Pennsylvania Statewide STEM Ecosystem (PSSE) leaders from across Pennsylvania gathered in Pittsburgh for the October 8-9 PSSE Leadership Summit - a two-day working session focused on advancing the Talent Activation System (TAS) and strengthening the statewide STEM ecosystem.

Tackling Difficult Work Together:

The summit brought together regional ecosystem leaders committed to guiding strategy, shaping priorities, and aligning partners across the commonwealth. Led by facilitator Spud Marshall, participants engaged in substantive, collaborative work, including: mapping talent pathways, assessing system conditions, and identifying the fundamental blockers that stand between where ecosystems are today and where they want to be.

PSSE Director Stephanie Schwab Ed.D. and Assistant Director Abbey Hathaway expressed deep gratitude for participants' willingness to push through complexity and uncertainty to do meaningful work together. "Your presence has ensured that our statewide efforts can continue to move forward with real momentum," Schwab noted in follow-up communications to attendees.

From Vision to Action:

Anchored by the Talent Activation System (TAS) Framework, the summit challenged participants to think beyond individual programs toward integrated, systemic approaches to talent development. Working sessions guided ecosystems through the 20 possible TAS activities with each activity focused on the priority sectors aligned with Governor Shapiro's statewide priorities: Agriculture, Energy, Manufacturing, Robotics & Technology, and Life Sciences.

Ecosystem teams spent dedicated time mapping talent pathways within one to two priority sectors, tracing learner journeys from awareness through advancement and identifying

where gaps and opportunities exist. Cross-ecosystem conversations surfaced patterns and shared challenges, and sparked new connections across the state.

Looking Ahead:

Participants left Pittsburgh with individual and collective next steps - each ecosystem identifying the first challenge to address and what they need from partners and PSSE to move forward.

The energy and engagement across both days reflected the strength of Pennsylvania's ecosystem leadership community. As ecosystems return to their regions to map assets, assess conditions, and drive outcomes for learners, the connections made in Pittsburgh will continue to fuel the statewide work ahead.

[For more information about PSSE, visit pastemecosystem.org](pastemecosystem.org)



Better together: STEM ecosystem leaders from across Pennsylvania celebrate the connections that power our statewide network.



Facilitator Spud Marshall guided participants from where our ecosystem stands today to the bold moves that will shape its future.



Participants trade ideas during the PSSE Leadership Summit. From left: Meghan Macanulty, Greer Richardson, Jigar Patel, and Betsy Payne.



From today's ecosystem to tomorrow's headlines: summit participants dig into the bold moves that will lead Pennsylvania's STEM future.

Introducing the PSSE Advisory Council!

The Pennsylvania Statewide STEM Ecosystem (PSSE) has launched a new statewide Advisory Council. Its purpose is to help close the gap between K–12 education and business and industry, and to bring strategic expertise to a shared statewide STEM vision.

Advisors serve for at least two years, with no set end date. That long-term commitment gives us time to build strong relationships, so **advisors can:**

- **Advocate for STEM education and workforce development**
- **Help Pennsylvania's STEM ecosystem grow**
- **Lend outreach, guidance, and support to strategic initiatives as needed**

The council serves in an advisory role only and does not hold governance or decision-making authority.

Meet Our Founding Advisors:

- **Contrell Armor: Executive Director, Pennsylvania Statewide Afterschool/Youth Development Network (PSAYDN)**; Sector: Out-of-School Time
- **Max Crumlich: Workforce Development Liaison, Pennsylvania College of Technology**; Sector: Higher Education
- **Charlene M. Espenshade: Executive Director, Pennsylvania Friends of Agriculture Foundation, Pennsylvania Farm Bureau**; Sector: Business and Industry
- **Gina Mason: Workforce Coordinator, Pennsylvania Department of Conservation and Natural Resources (DCNR)**; Sector: Government
- **McKayla Plewe: Career and Technical Education Advisor, Pennsylvania Department of Education, Bureau of Career and Technical Education**; Sector: Government
- **Jeff Remington: STEM Outreach Liaison, Penn State Center for Science and the Schools (CSATS); Sector**: Higher Education
- **Rikki Riegner: Executive Director, Pennsylvania Manufacturing Extension Partnership (PA MEP);** Sector: Business and Industry
- **Dr. Demetrius Roberts: Special Consultant for STEM and Computer Science, Pennsylvania Department of Education**; Sector: Government

Please join us in welcoming our founding advisors!

Teach STEM in PA (TSiP) Officially Launches!

Teach STEM in PA (TSiP) celebrated its public launch at a reception at the August Wilson African American Cultural Center in Pittsburgh on October 7.

Built on the PSSE network, TSiP works across Pennsylvania's six regions to recruit, prepare, support, and retain STEM educators. The initiative grew from a statewide team convened by the [Smithsonian Science Education Center] with support from Shell USA, and TSiP is now part of the national [Beyond100K] network.



[Read Arthur Mitchell's full recap of the Teach STEM in PA launch on LinkedIn]

STEM Resources & Opportunities



Youth Development Digest: Special Alert!

The latest Youth Development Digest special alert from the Pennsylvania Statewide Afterschool/Youth Development Network **(PSAYDN) has two opportunities for out-of-school-time programs**:

1. **Share your Lights On Afterschool photos: Send photos from your 2026 celebration**, with your program's name, location, and a short caption, and they may be featured in PSAYDN's communications. Please share only photos you have permission to use publicly.

2. **Apply for the 826 Write to Thrive Fund: 826 National is offering $15,000 to $25,000 grants** for schools and youth-serving organizations to run creative writing sessions for students in grades 4 to 12 in 2027. **Applications are due November 6.**

[Read the PSAYDN Youth Development Digest special alert for both opportunities]

Pennsylvania DEP Environmental Education Grants Now Open
Apply by November 13

The Pennsylvania Department of Environmental Protection (DEP) is accepting applications for its 2027 Environmental Education Grants. The grants fund school and community projects that build public understanding of Pennsylvania's environmental issues and the skills to take responsible action on behalf of the environment.

Three funding levels are available:

- **Seed Grant: up to $5,000** for local projects
- **Grow Grant: $5,001 to $30,000** for large-scale projects, such as district-wide, multi-county, regional, or statewide efforts

- **Impact Grant: $30,001 to $65,000** for building program capacity and sustainability, with broad engagement at the county, regional, and state levels

Grants are paid on a reimbursement basis, and the project period runs July 1, 2027, through June 30, 2028.

Applications are due November 13, 2026.

Read the instructions and apply for the DEP Education Grant

STEM NEXT OPPORTUNITY FUND

You Can Still Enter STEM Next's AI Challenge for a Chance to Win Up to $5,000 for Your Program Deadline is November 19!

STEM Next's AI Innovation Challenge was created in partnership with Panasonic Foundation to challenge high school youth in structured afterschool programs to develop innovative projects addressing real-world challenges using AI. Youth identify a local or global issue they care about, then use AI to research the issue, explore ideas, and strengthen their proposed solution. Program leaders provide guidance and support while youth lead the research, idea development, and presentation of their projects.

Deadline to apply is November 19, 2026.

Apply for STEM Next's AI Innovation Challenge

Set Sail with NOAA Teacher at Sea Applications due November 30, 2026

Applications are open for the 2027 NOAA (National Oceanic and Atmospheric Administration) Teacher at Sea program! Educators join NOAA scientists aboard ocean research vessels, helping collect data and bringing real-world science back to their learners.

There is **no cost to participate**, since NOAA covers travel, lodging, and meals.

The program is open to full-time educators in any subject and at any level, including pre-K–12 teachers, college instructors, and informal educators at museums, zoos, and aquariums. You don't need to be a science teacher to apply.

Apply by November 30, 2026.

[Learn about eligibility and apply for NOAA Teacher at Sea]

- There's Still Time -
Apply for Society for Science STEM Research Grants
Submissions due December 4!

STEM Research Grants provide support to US middle and high school teachers engaging in authentic STEM research.

Eligible full-time teachers at US schools serving at least one grade from 6-12 can apply for **up to $5,000 in specialized equipment funding** or **a pre-selected equipment kit** to support independent student research, **or both**.

Submissions due December 4, 2026.

[Apply for a STEM Research Grant]

NSF Funding for Two-Year College STEM Innovation
Proposals Due December 9

Applications are open for the National Science Foundation (NSF) Innovation in Two-Year College STEM Education (ITYC) program.

ITYC supports projects at two-year colleges that strengthen STEM education, improve student outcomes, and build institutional capacity. This opportunity **invests in student-centered approaches** that foster innovation across disciplines, departments, and entire institutions while empowering faculty and students to thrive in STEM.

Awards range up to $500,000 over three years. Colleges that haven't received NSF funding in the past five years can request up to $100,000 more.

Proposals are due December 9, 2026, by 5:00 p.m. local time.

[Learn about ITYC eligibility and apply on the NSF website]

WorkForce
Pennsylvania Workforce Development Association

Attend the Higher Education & Workforce Summit in January

Workforce board executives, higher education leaders, adult and postsecondary career and technical education (CTE) professionals, and employers are coming together to shape the future of talent development across Pennsylvania.

The summit focuses on moving from parallel efforts to aligned, employer-responsive talent systems that deliver real business and community impact. View the PDF flier for more details on the summit.

When: January 7–8, 2027
Where: Penn State Harrisburg

View the agenda and register for the Higher Education & Workforce Summit

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Help More People Discover Your Computer Science Opportunities!

Across Pennsylvania, organizations offer valuable computer science (CS) experiences beyond the school day. A new statewide directory will help students, educators, families, and communities discover these opportunities, and help providers reach more participants!

Put Yourself on the Map!
Libraries, colleges and universities, businesses, nonprofits, and other providers across the Commonwealth are invited to **join a searchable directory of community-based CS opportunities as part of the CSinPA toolkits**.

Register your organization to increase visibility, support recruitment, and build connections with others working to expand CS across Pennsylvania. Whether you offer a single event, an ongoing program, resources, or other types of opportunities, we want to hear from you!

Please share this invitation widely with CS providers across Pennsylvania.

Contact the CSinPA team at PaTTAN (csforall@pattan.net) if you have any questions.

Join the Sound Science Teacher Community - Receive Support from the National Center for Science Education (NCSE)

NCSE National Center for Science Education

Are you teaching evolution, climate change, or data & media literacy skills at the high school level?

Want to try out some new classroom resources and join a community of passionate teachers? If so, you are invited to join the Sound Science Teacher Community.

You will be part of a community of passionate science teachers; receive support from NCSE Science Education Specialists; **earn a $150 stipend and an exclusive t-shirt**

upon completion of requirements; and have the potential for future opportunities with NCSE projects.

[Join the Sound Science Teacher Community]



Educators Get Your Free Aerospace Toolkit to Connect Afterschool STEM programs with Careers

The **Launching Futures Toolkit** includes hands-on aerospace challenges, facilitation support, and career profiles designed for afterschool and summer programs. It gives educators a practical resource for connecting STEM activities with real-world careers.

[Get your Launching Futures Toolkit]

Join PSSE!

Not already a PSSE member? Member benefits include subscription to the PSSE newsletter; regular announcements about grants, professional development and other resources, access to a FREE public membership directory, and the opportunity to join a PSSE Workgroup and impact STEM education throughout the Commonwealth.

Click on the link below to join!

PSSE Member Registration

Pennsylvania Statewide STEM Ecosystem (PSSE) | 1200 Line Street | Archbald, PA 18403 US

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