

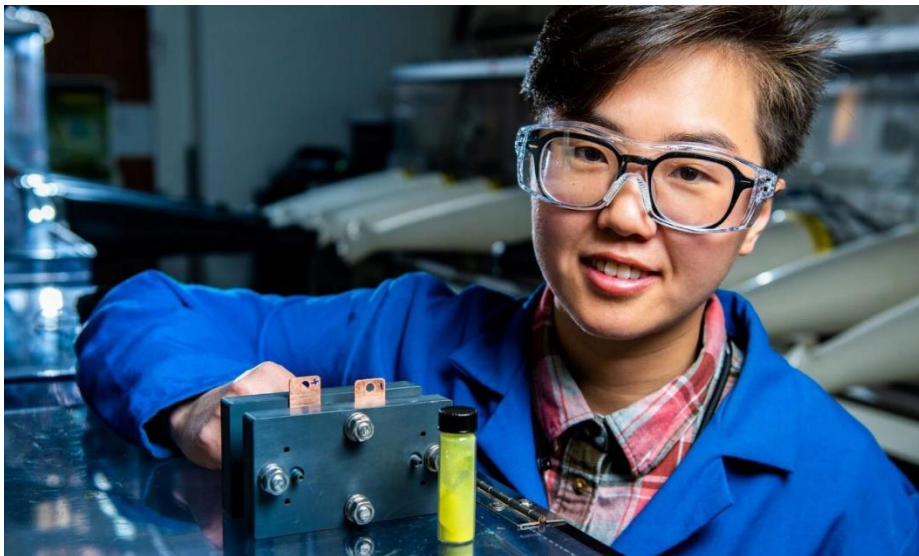
Heather Sherman
Battelle Education
Presentation to NM LESC
July 25, 2024

STEM Networks: Best Practices from the Field

Battelle & STEM in NM

Los Alamos National Lab

- Awarded LANL contract in 2018 as a member of Triad National Security
- Battelle oversees approximately 45,000 employees at nine national laboratories.



Collaborations to support STEM

- Consulted on the first NM Governor's STEM Challenge
- 2021 Community Conversation on STEM and Workforce Development
- Lab Community of Practice
- STEMx national network – NM is member

Our mission and purpose

Our mission: To translate scientific discovery and technology advances into societal benefits



Gordon Battelle, Founder

- “...for the purpose of education in connection with and the encouragement of creative and research work...”
- Profits reinvested in science & technology and in charitable causes, making the world better for generations to come

Battelle Education

Empowering educators with new methods



Building skills for 21st century success



Battelle Education Core Competencies

- Education network leadership
- STEM school designation
- Program management
- K-12 teacher professional development

Battelle Education 2023 Highlights

- 1,416 K-12 teachers trained
- 3 state conferences
- 1 national conference
- \$2.6 Million in STEM Classroom Grants Awarded



Battelle STEM Networks

- Public Private Partnerships
 - Co-manage STEM school designation process
 - Support state education priorities
- Teacher professional development
- Annual conference
- Manage hubs/deliverables
- State funds + competitive awards

Ohio STEM Learning Network

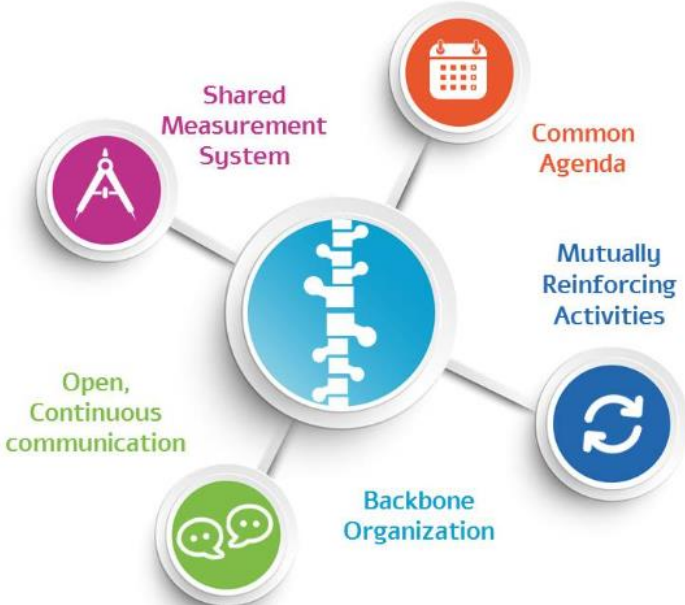
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tsin Tennessee STEM Innovation Network

STEMx

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Collective Impact via Networks



Element	Example
Common Agenda	Increase access to and quality of K-12 STEM education in our state
Shared Measurement	Agreement on definitions and metrics
Continuous Communication	Regular communication about network activities; amplify hub communications
Mutually reinforcing activities	Different approaches; same goal
Backbone organization	Manages/drives the network

Network “backbone”

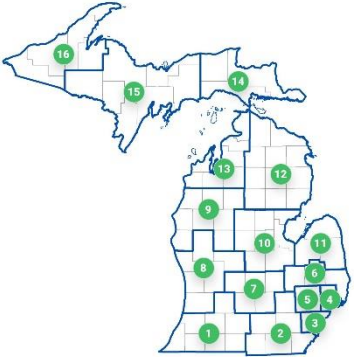
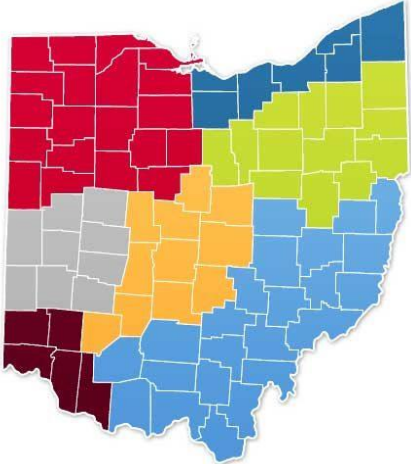
- Daily management of the network
- Employs staff
- Centralized communications
- Facilitates connections
- Convenes network stakeholders
- Distributes funds
- Collects data
- Accountable for deliverables



Hub examples

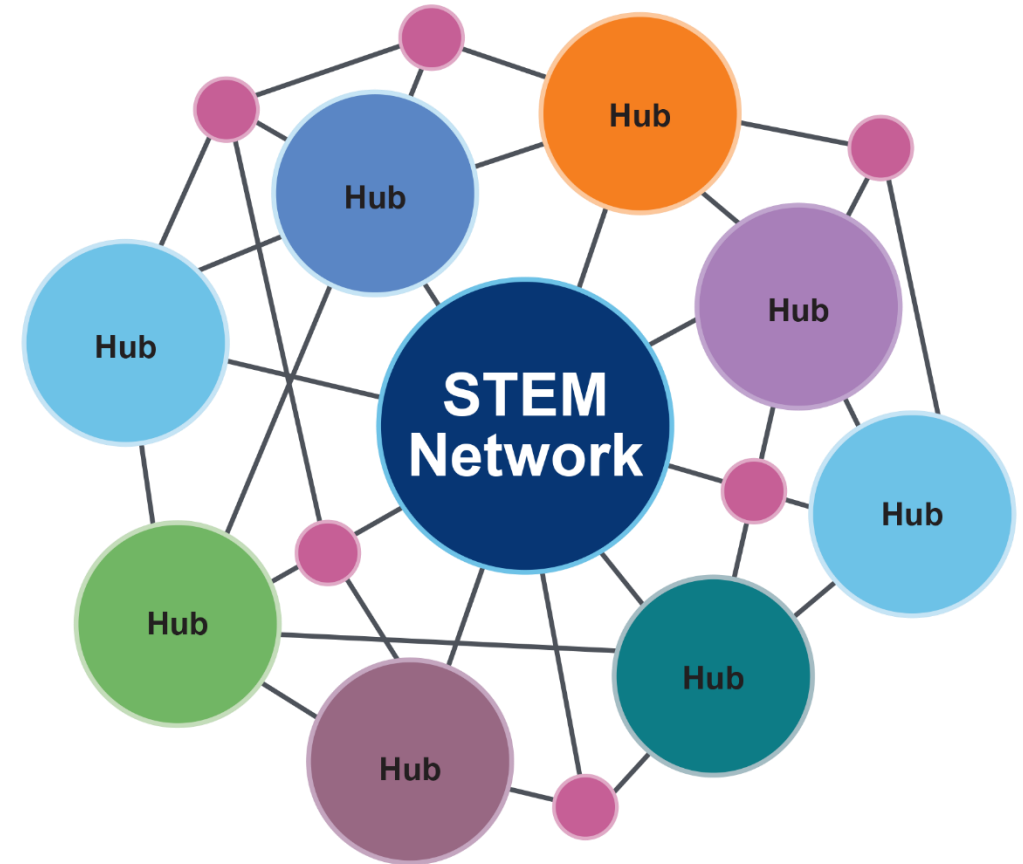
- Idaho
- Iowa
- Louisiana
- Ohio
- Oregon
- Michigan
- Tennessee

(not an exhaustive list)



Regional STEM Hubs

- Established entities who already engage in STEM
- Partially subsidized by network, via a contract or MOU
 - Provide X professional development sessions
 - Coordinate one regional convening
 - Support STEM designation
 - Engage with the network - locally and as an active participant on calls, meetings.
- Conduct programs and outreach independently and with the network



Computer Science Professional Development

- Since 2017, trained 589 Ohio K-12 teachers in Computer Science through a partnership with CODE.org
- CS teacher licensure preparation programs in Ohio and Tennessee
- Subject matter expertise on the state CS plans in Ohio and Tennessee



Sample Budget

Personnel	5.5 FT staff, + 7 PT staff (10% overhead)	\$725,000
Purchased services	Contracts: PD facilitators, content experts, event space, catering, marketing, MS curriculum for every student in the state	\$450,000
Other Direct Costs	Hub funds and grants to schools	\$275,000
Supplies/Occupancy	Program supplies/materials	\$45,000
Travel and Conferences	Staff travel, statewide STEM conference for 400+ K-12 teachers	\$230,000
Total		\$1,725,000

Externally Funded Collaborations

Our Approach

- Cohort model
- Problem Based Learning (PBL) foundations
- Exposure to a particular industry
- Placement at a local business
- Create curricular unit for students
- PBL that incorporates that industry
- Expand career awareness for teachers and students

Partners



Manufacturing and
Engineering
Externship Program
MEEP

Advanced
Manufacturing;
Office of Naval
Research



Ohio Rural Education
Program

Agriculture;
USDA



Ohio Teacher
Academy

Submarine
Industrial Base;
Blue Forge
Alliance

BATTELLE

It can be done

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