



**Proceedings of the Ninth Annual Indiana STEM Education Conference
“Resourcing STEM Education”**

January 11, 2024

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Goals and Proceedings Information

Indiana STEM Education Conference Goals

The goal of the annual Indiana STEM Education Conference is to support K-12 STEM education in Indiana by sharing effective practices in STEM teaching and learning. The conference is an opportunity for STEM teachers, researchers, and organizations to present instructional strategies, lessons/activities, curricular materials, policies, research, and other resources. Each annual meeting is informed by a timely theme and is organized around four strands: STEM Instructional Strategies; STEM Curriculum, Activities, and Resources; STEM Career Exposure; and STEM Education Research.

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Recommended Citation

Author, A. A., & Author, B. B. (2024). Title of article. In W. S. Walker, III, L. A. Bryan, & S. S. Guzey (Eds.), *Proceedings of the 9th annual Indiana STEM Education Conference*. Purdue University: Purdue e-Pubs.

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Preface and Acknowledgments

Welcome to the ninth-annual Indiana STEM Education Conference, hosted by the Center for Advancing the Teaching and Learning of STEM (CATALYST, <https://www.education.purdue.edu/catalyst/>) at Purdue University. The theme for the 2024 conference is *Resourcing STEM Education*. This year's Indiana STEM Education Conference provides opportunities to learn about effective STEM education strategies, curriculum, and resources to engage students in integrated STEM learning opportunities and address the recently updated Indiana Academic Standards for Science and Computer Science, Indiana Academic Standards for Mathematics, and Indiana Academic Standards for Integrated STEM (<https://www.in.gov/doi/students/indiana-academic-standards/>).

The 2024 conference features 68 presentations, 31 sponsors, and 13 research posters or briefs for approximately 580 participants. Resources from presentations and sponsors are posted on a Google Site for the conference: <https://sites.google.com/view/instemed2024resources/home>. This allows participants to view the resources multiple times after the conference ends.

The keynote speaker for the conference is Phil Cook. Mr. Cook is a Senior Science Instructor at Culver Academics. Phil is a down-to-earth chemistry teacher who also happens to have millions of followers on social media through his @chemteacherphil account. You can view his demonstrations on YouTube at: <https://www.youtube.com/channel/UCBVY4zJr4qTXdPIMus1VxqA>. An avid storyteller, he communicates a love for science through engaging chemical demonstrations and promotes scientific literacy within his chemistry classroom as well as to the millions viewing his content online. Phil discussed how he fell in love with teaching and learning, his rise in popularity on social media, and the importance of online resources and demonstrations for STEM education.

Sponsors are important for the success of the conference. The Level 3 sponsors for the Indiana STEM Education Conference include: 1st Maker Space, Amplify, CATALYST, GEMS@Purdue, Indiana STEM Ecosystem, LEGO Education, Purdue University - College of Education, STEM Education Works and TinkRworks. Level 2 sponsors include: Aidex Corporation, Carolina Biological Supply Company, E-Blox, Purdue University - Department of Forestry and Natural Resources, Sphero, STEMscopes, and Visible Body. Level 1 sponsors include: ACEC Indiana, Advanced Placement Teacher Investment Program, Blocks Rock, Comcast, FIRST Indiana Robotics, Five Star Technology Solutions, GER²I - Gifted Education Research & Resource Institute, Moss Educational Training Solutions, NearSpace Education, Purdue University - Department of Nutrition Science, Purdue University - Online Programs, Purdue University - Summer College for High School Students, Robo Wunderkind, and STEM Teach Indiana.

This is the fourth year of published proceedings for the Indiana STEM Education Conference. The 13 research posters or briefs are published through Purdue e-Pubs (<https://docs.lib.purdue.edu/instemed>).

Thank you to all the attendees for making time to grow as a professional through this conference. In addition, we thank Purdue Conferences, Pamela Walker-Stokes, and her colleagues for organizing the conference details.

See you in 2025!