

Call for Proposals Special issue: 2027

Topic: Technology-enhanced, place-based STEM education

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Description of issue: This issue of TME will help STEM teachers and teacher educators learn about technology-enhanced and place-based STEM education in a variety of settings. Articles should feature theoretical syntheses on pedagogical foundations, empirical research, or classroom-based studies. Articles should address place-based (e.g., Yemini et. al., 2025; Boz et. al., 2025), student-centered STEM education that includes at least two of these three topics related to classroom instruction, assessment, and/or policy:

- Integration of technology and/or computational thinking, such as through the use of makerspace technology, digital fabrication, coding experiences, robotics, and/or artificial intelligence
- Initiatives intended to improve K-12 or undergraduate students' STEM learning, such as through project-based instruction (e.g., Blumfeld, 1991); pre-service teacher learning, including undergraduate learning assistants' projects supporting peer student success; and in-service teacher professional growth, including fostering teacher leadership (e.g., Criswell et. al., 2018)
- Results of outreach partnerships between schools and higher education, such as projects funded through the National Science Foundation Robert Noyce Teacher Scholarship Program

We invite pre-service teachers, in-service teachers, curriculum designers, STEM coordinators, instructional coaches, teacher educators, and higher education faculty to submit manuscripts.

This special issue is intended as an opportunity to disseminate results from our project and from projects similar to ours. As an example, our project team hosted the [Northeast Noyce Local Professional Learning Institute](#) on June 6-7, 2026. A selected list of our project's recent publications is also provided below.

This project is based upon work supported by the National Science Foundation under Grant Nos. 2243461, 2243462. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the view of the National Science Foundation.

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- Dr. Sandy Spitzer, Towson University, Professor of Mathematics and Department chair
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- Dr. Sondra LoRe, STEM Program Evaluation, Assessment & Research (SPEAR), Director & Principal Evaluator

Timeline:

September 2026 - Call for Papers
October 30, 2026 - Titles and tentative abstracts due
November 30, 2026- Finalize list of authors and papers

First Round (Reporting on learning experiences which have already taken place prior to and including Fall 2026):

April 2027 - Receive 1st draft of paper for Fall 2026 classes
June 2027 - Submit feedback to authors
Sept 2027 - Receive 2nd draft of paper

Second Round (Reporting on learning experiences taking place in Fall 2026 or Spring 2027):

June 2027- Receive 1st draft of paper for Spring 2027 classes
July/August 2027- Submit feedback to authors
Oct 2027- Receive 2nd draft of paper

References:

Blumenfeld, P. C., Soloway, E., Marx, R. W., Krajcik, J. S., Guzdial, M., & Palincsar, A. (1991). Motivating project-based learning: Sustaining the doing, supporting the learning. *Educational Psychologist*, 26(3 & 4), 369-398.

Boz, T., Smith, N., Hammack, R., Davis, H., & Cornish, J. (2025). Middle School Students' experiences with place-based STEM outreach. *Research in Science Education*, 55(6), 1685–1705.
<https://doi.org/10.1007/s11165-025-10245-1>

Criswell, B. A., Rushton, G. T., Nachtigall, D., Staggs, S., Alemdar, M., & Cappelli, C. J. (2018). Strengthening the Vision: Examining the understanding of a framework for teacher leadership development by experienced science teachers. *Science Education*, 102(6), 1265–1287.
<https://doi.org/10.1002/sce.21472>

Yemini, M., Engel, L., & Ben Simon, A. (2023). Place-based education - a systematic review of literature. *Educational Review*, 77(2), 640–660. <https://doi.org/10.1080/00131911.2023.2177260>

Examples of other special issues of TME:

[Mathematics education](#) [Course-based undergraduate research](#)

Selected prior disseminations from our project team:

Cheng, D. (2022). Problem-solving for teachers – action research in a cross-listed undergraduate and graduate course. *The Mathematics Enthusiast*, 19(3), 833–859.

<https://doi.org/10.54870/1551-3440.1581>

Corum, K. & Nichols, L. (2026). Exploring the Efficacy of the MakerTPICK Framework to Support Teachers' Integration of Making into STEM Classrooms. In *Proceedings of Society for Information Technology & Teacher Education International Conference* (pp. 2477-2482).

Philadelphia, PA: Association for the Advancement of Computing in Education (AACE).

Retrieved July 5, 2026, from <https://www.learntechlib.org/primary/p/2129312/>

Corum, K., & Spitzer, S. (2025). Integrating Justice-Centered STEM Making Into Classrooms. In R. M. Zbiek, F. Arbaugh, A. McCloskey, & X. Yao (Eds.), *Proceedings of the forty-seventh annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*. (pp. 1339–1340). Pennsylvania State University.

<https://doi.org/10.51272/pmena.47.2025>

Leonard, J., Blondonville-Ford, D., Grubb, D., Cheng, D., & Wang, X. (2025). Self-efficacy, agency, and values as predictors of STEM teacher leader identity in urban-like learning environments. *School Science and Mathematics*, 125(5), 475–489.

<https://doi.org/10.1111/ssm.18347>

Our project team published four chapters in the following book:

Briganti, J. S., Sible, J. C., & Brown, A. M. (2024). *Fostering communities of transformation in STEM Higher Education: A multi-institutional collection of DEI initiatives*. Virginia Tech

Publishing. Available at: <https://publishing.vt.edu/books/m/10.21061/fosteringcommunities>

- Corum, K. & Nichols, L. Preparing STEM Teachers to Be Change Makers, pp. 1-14
- Cheng, D. & Gonzalez, J. Teaching to Make Math Resonate, pp. 139-170
- Nichols, L. & Corum, K. Strategies for Creating and Sustaining Inclusive Makerspaces, pp. 171-192
- Gibson, W. & Corum, K. Gunpowder Code Club, pp. 213-222