

# Editorial

Dear new and returning readers,

Welcome to Volume 23, Issue 4 of *The Journal of STEM Education: Innovations and Research*. We at JSTEM hope you enjoy this issue and the wonderful contributions from our authors.

The first article, “Deeper Learning Opportunities and STEM Career Orientation in Out-of-School Time (OST) STEM Enrichment Programs,” analyzes Deeper Learning (DL) opportunities and the correlation between multiple DL measures on STEM career orientation in OST STEM.

The second article, “Technology and Engineering Education Teacher Characteristics: Analysis of a Decade of Institute for Education Science Nationally Representative Data,” employs four waves of Institute of Education Sciences nationally representative data to investigate changes in K-12 technology and engineering education teachers.

The third article, “Combining STEM and Character Development in an Out-of-School Time Program: Participatory Practices for Developing and Validating a Theory of Change,” develops and verifies a pathway (or theory of change) for STEM Scouts, an out-of-school time (OST), positive youth development program for elementary through high school-aged youth.

The fourth article, “Effects of Flipped Instruction on College Students’ Learning in STEM Subject Domains: A Meta-Analysis,” investigates the effect of flipped instruction and the conditions under which it is beneficial or deleterious for college students’ learning in STEM subject domains.

The final article, “Improving Middle School Science Achievement, Literacy and Motivation: A Longitudinal Study of a Teacher Professional Development Program,” presents results of a longitudinal study of a three-year, in-service teacher professional development program that focused on improving grade sixth through eighth science achievement, science literacy and increasing science interest in five urban middle schools.

We would like to extend our utmost appreciation to several staff members for their continued dedication to the journal. The work of Format Editor Wally Ridgway, Associate Editor Eliza Banu, Managing Editor Murty Raju, and Editorial Assistants Anna Mathis and Anastasia Johnston is critical to the journal’s success. Additionally, we are pleased to welcome our newest Editorial Assistant, Nic Rasool, to the JSTEM staff team.

If you are interested in publishing your own research in our journal, please visit [jstem.org](http://jstem.org) for submission instructions. Please contact [jstemed@mail.com](mailto:jstemed@mail.com) with any comments or questions, and our editorial staff would be happy to assist you. Thank you for reading, and we at JSTEM wish you a happy and healthy holiday season!

Thank you,  
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