

MICHIGAN STATE UNIVERSITY

Michigan State University College of Education Commitment Statement in support of the National Academies of Sciences, Engineering, and Medicine Action Collaborative on Advancing Science Teaching and Learning in K-12 (CASTL-K12)

March 21, 2025

Michigan State University College of Education prepares leaders who address cognitive, physical and emotional well-being at the individual, community and societal levels by engaging in high-quality research, teaching and outreach that makes an impact and promotes the public good.

Since the emergence of the NGSS Framework and subsequent research-led efforts over the past decade, the STEM education faculty at Michigan State University have been leaders in contributing to this work. We have led efforts in standards implementation across K-12 curriculum design, teacher education, and policy development. As such, the networked community of practice proposed by CASTL-K12 offers a unique and exciting opportunity for MSU to contribute to the national efforts informed by the topical working groups and learn from other stakeholders across the country who share similar interests. CASTL-K12's vision of building on evidence-based policies, tools, and examples speaks directly to the work of STEM faculty in our College of Education. We view this as a prime opportunity for us to directly influence the future of K-12 STEM education throughout the country, ensuring that the next decade of science standards implementation is grounded firmly in contemporary and critical research. MSU is uniquely positioned to contribute to this conversation, as our college has a broad representation of leaders whose scholarship has contributed greatly to the field of science education as well as various other initiatives led by the NASEM.



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One significant upcoming endeavor involves a redesign in our secondary science program. Given the lessons learned from the elementary program redesign, we intend to design a program that centers both equity and justice while being informed by the standards and contemporary research in science education. Our work here would be of interest to at least 2 of the TWGs, indicating an additional need for cross-site collaboration. An additional effort underway involves the creation of a new center devoted to artificial intelligence in the context of STEM Education. Led by the CREATE for STEM Institute along with several other colleges, this center will support faculty in their instructional efforts throughout K-12 programming. This aligns squarely with the proposed activities of CASTL-K12 and can be used to support the collaborative in its goals.

- CASTL-K12 will pursue four primary goals:
 - develop a coherent strategy for supporting implementation of science standards across states and districts,
 - launch and coordinate a networked community of practice for stakeholders at all levels and across sectors,
 - build on and share existing evidence-based policies, tools, and examples, and
 - develop a coherent communication and engagement strategy for
 - advancing K-12 science and engineering education broadly.
- Michigan State University College of Education commits to supporting the goals of the National Academies of Science, Engineering, and Medicine's Action Collaborative on Advancing Science Teaching and Learning in K-12.

Signed:



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