Virtual Presentation Date/Time: May 22, 2025, 1:00 – 2:30 PM CST

Workshop Title: Enhancing the Learning Experience: Implementable and Adjustable Learning Models for Educators

Presentation Title: "First-year Achievement by Supporting Students Transitions in Engineering: Implications for Academic and Career Development in Undergraduate STEM Education"

Presenter Biography: Dr. Martene Stanberry is a Professor of Mathematics at Tennessee State University, who holds a Doctor of Philosophy in Applied Mathematics and a Master of Science in Mathematics from North Carolina State University. She also holds a Bachelor of Science in Mathematics with a teacher certification from Tennessee State University. Dr. Stanberry is committed to improving science, technology, engineering, and mathematics (STEM) education for underrepresented minority students, and her work has focused on providing education and research opportunities for undergraduate students to enhance their academic experiences and increase their readiness for graduate studies and careers in STEM. She has served as a lead investigator on several research grants to redesign courses, implement strategies to enhance student learning and engagement, and provide a pathway for the on-time graduation of STEM majors. To expand her horizons and heighten her impact, in 2023 Dr. Stanberry became an NSF INCLUDES Alliance Engineering Plus stEm Practitioner Enhancing Engineering Regionally (PEER) Fellow, and in 2024 she was selected to be a stEm PEER Leader. Dr. Stanberry's engagement in teaching, research, academic service, and professional development activities is strengthening her ability to accelerate the implementation of high-impact, evidence-based practices in STEM within Tennessee State University and beyond.

Discussion Questions:

1. What are key factors that impact the persistence, progression, and graduation of URM students in engineering disciplines?
2. What key strategies can be used to support URM and female engineering students?

Implementable and Adjustable Activities for Undergraduate STEM Majors to enhance their academic experiences could be implemented as a part of a class, through a grant funded project, or as an activity sponsored by a department/college/university or student professional organization:

1. Academic Development
    a. Academic Success Modules
    b. Goal setting
    c. Undergraduate Research
2. Career/Professional Development
    a. Experiential learning
        i. Career Fair
        ii. Visit a company
        iii. Research project
    b. Seminar Series
        i. Recent STEM graduates from the university* (Topics covered: undergraduate experiences, pathway to STEM degree, internship opportunities, current job, navigating being a STEM professional, graduate studies if relevant)
        ii. Representatives from companies that employ STEM graduates and offer student internships
        iii. Representatives from STEM graduate programs
    c. Reflective journaling
        i. Name five things you think of as your strengths.
        ii. What is your favorite quote? How does it make you feel?
        iii. List 3 short term goals and create an action plan to achieve them.
    d. Membership in a student chapter of a professional organization
    e. Presentations by the University Career Center