



**College of Liberal Arts and Sciences
Winter 2021 Chemistry Seminar Series
Friday, February 26th**

Dr. Joi P. Walker
Assistant Professor
East Carolina University

**Cross-Disciplinary Practice Focused Undergraduate Laboratory
Transformation (X-Labs)**

Abstract:

X-Labs is an NSF funded project designed to provide an inclusive curriculum for students enrolled in biology, chemistry, and physics introductory laboratory courses. The project seeks to facilitate practice focused transformation through a common laboratory structure, language, and emphasis for instruction. The chemistry department led this process through the implementation of Argument-Driven Inquiry (ADI), an instructional model co-developed and researched by Dr. Walker. The process of transforming the laboratory courses provided the opportunity to address the need for well-structured research across disciplines that measures student understanding of general science practices as well as discipline-specific practices. The adaptation of the ADI instructional model in chemistry, biology, and physics will be described and research demonstrating student proficiency with scientific practices will be presented.

Bio:

JOI P. WALKER, Ph.D., is an Assistant Professor of Chemistry Education in the Department of Chemistry at East Carolina University. Her research centers on the broad question of how to integrate science practices into the teaching and learning of undergraduate chemistry. Her current research projects include: 1) cross-disciplinary practice focused undergraduate laboratory transformation (X-Labs), 2) increased access to authentic undergraduate research (ChemCUREs), 3) assessment design and validation, 4) team science and mentoring strategies for undergraduate research (TEaMS-UR). In addition, she is active in the chemistry education research community, presenting research at national and international conferences. Dr. Walker is a member of the STEM Collaborative for Research in Education (STEM CoRE); a multidisciplinary team of discipline-based education research (DBER) scholars at ECU representing the College of Arts and Sciences and the College of Education, as well as four discipline specific departments.