STEM@StarLight

COLLABORATION IN THE SCIENCES AND BEYOND

ECU MAIN CAMPUS STUDENT CENTER, THIRD FLOOR DECK

MONDAY, JUNE 7, 2021

oSTEM PROFESSIONAL CHAPTER LAUNCH

Welcome & Introduction

Sambuddha Banerjee
Teaching Assistant Professor, Department of Chemistry
East Carolina University

Presenter

"My Journey to QuantCrit: How the Scientist Met The Fugitive In The Borderlands"
Dr. Paulette Vincent-Ruz
Postdoctoral Associate in Chemistry Education
University of Michigan

Discussion

Mary Farwell, Assistant Vice Chancellor
Division of Research, Economic Development and Engagement
East Carolina University

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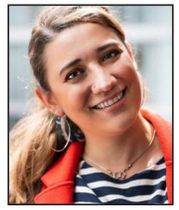

Dr. Paulette Vincent-Ruz

Postdoctoral Associate in Chemistry Education, University of Michigan

Vincent-Ruz is a postdoctoral associate in chemistry education at the University of Michigan. She graduated with a bachelor's in chemical engineering from the National Autonomous University of Mexico (UNAM) in Mexico and obtained her doctorate in learning sciences and policy from the University of Pittsburgh. Due to her to unique combination of chemistry disciplinary knowledge and educational background, she became the first chemistry education researcher named a Future Leader in Chemistry in 2019 by CAS, a division of the American Chemical Society.

Vincent-Ruz's research program builds an understanding of how systemic disadvantages hinder the success of marginalized students in chemistry. Specifically, how these barriers on access, opportunity and social messaging impact their science-related attitudes, engagement with the learning environment, and retention. She does this by using cutting-edge quantitative methods with a #QuantCrit lens. Her research program has contributed to the STEM and chemistry education fields, resulting in eight peer-reviewed articles.

"My Journey to QuantCrit: How the Scientist Met The Fugitive In The Borderlands"
As a gateway to STEM, Chemistry Education Research (CER) has a moral imperative to progress toward more equitable student engagement with the sciences. While efforts to reform classrooms are ongoing, quantitative methods used in research can further propagate the marginalization and minoritization of specific student groups. This leads to the question “Can quantitative methods, long critiqued for their inability to capture the nuance of everyday oppression, support and further an equity agenda in CER overall?” Here, we present advancements in the framework of QuantCrit published across education research. While QuantCrit introduced five tenets toward identifying and avoiding oppressive quantitative practices, few works in CER employ tenants of QuantCrit resulting in “hyperpersitent” gap-gazing and deficit-oriented interpretations of student-level data that continue to marginalize specific student groups, despite best intentions. One of the barriers to applying QuantCrit is that it is hard to find advice on how to apply the principles empirically and how to make sure these principles are consistent with the researcher’s chosen theoretical framework. To support initiatives in CER seeking to transition to more equitable quantitative methods, suggestions for applying principles of QuantCrit to CER will be discussed.