Laura Lukes, PhD

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Affiliate Faculty, Department of Atmospheric, Oceanic and Earth Sciences

Education

PhD, Marine, Earth and Atmospheric Science, North Carolina State University

Key Interests

STEM Education | Citizen Science | Teaching and Learning | Self-Regulated Learning | Faculty Development | Learning Environments | Learning Engineering | Evaluation | K-12

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SELECT PUBLICATIONS

› Lukes, L., *et al.*, Leveraging a large database to increase access to undergraduate gesearch experiences. *Scholarship and Practice of Undergraduate Research* 2 (4), 4-13, (2019).

› Eby, K. and L. Lukes. Transforming learning spaces through iterative design to support inquiry-driven learning. *Scholarship and Practice of Undergraduate Research* 1(2), 24-31. (2017).

› Lukes, L., *et al.,* Creating a community of practice around geoscience education research: NAGT-GER. *Journal of Geoscience Education*, 63, 1-6. (2015).

Research Focus

My research portfolio contains a variety of projects, but is centered on understanding learning STEM experiences from a user experience perspective. If we understand how people make choices about learning and how they perceive STEM learning experiences, we can improve attitudes towards STEM fields and STEM learning outcomes through better design. Better STEM learning experiences relates to developing a strong STEM workforce.

Current Projects

■ Citizen Science and Crowdsourced Experiments: EclipseMob is an effort to engage the general public in a citizen science project in which they build their own receiver systems to conduct a crowdsourced spatial temporal experiment of low frequency radio wave propagation effects during a total solar eclipse.

■ Inquiry-Based Learning and Research Experiences with Databases: The Paleobiology Database Project is an exploratory study of how the Paleobiology Database (PBDB, a large fossil specimen database that includes digital museum datasets) can be used to support inquiry-based learning experiences for students and be used remotely to conduct independent research experiences for undergraduates.

■ Learning Environments and Technologies Assessment: GMU Learning Environments Assessment Group is a cross-institutional team that has leveraged instructor and student experience data (perception surveys, focus groups, observations, and interviews) to inform an iterative design approach to a large university's construction sequence of active learning spaces and adoption of associated faculty development over a period of six years.

■ STEM education project evaluation