



Layla El-Khoury

Layla El-Khoury is the 2023 recipient of the Robert E. Stewart Engineering-Humanities award for her work combining her research in streambank erosion and dance.

El-Khoury is a graduate research assistant and PhD student in the biological and agricultural engineering department at North Carolina State University (NCSU).

There she conducts research in improving methods for identifying, predicting, and quantifying streambank erosion to better target restoration efforts. She conducted research for her master of science degree that focused on validating a USGS geospatial data layer where the results indicated it could be used to identify locations of erosion. This enables identification of potential stabilization/restoration sites prior to field assessments, maximizing the use of limited time and resources.

In her PhD research, El-Khoury has examined different methods to quantify streambank erosion, including physical surveys, aerial imagery analysis, and geomorphic change detection using LiDAR data. She has also worked on developing a model to predict streambank erosion rates in the Ridge and Valley and Blue Ridge regions of Virginia.

El-Khoury has presented research at multiple conferences in both poster and oral presentations at the NCSU Water Resources Research Institute annual conference, the ASABE Annual International Meeting, the American Ecology Engineering Society, and the National Stream Restoration Conference.

El-Khoury choreographed a dance piece entitled, “Force of Flows” that serves to educate and inform about streambank erosion. This piece was selected to represent NCSU at the American College Dance Association Mid-Atlantic South Conference in 2022. At the same conference in 2023, El-Khoury presented on how dance can be used to disseminate STEM research.

El-Khoury has been a member of the State Dance Company (SDC) at NCSU since 2021. Through the SDC she has had the opportunity to merge her research with dance. Through the medium of dance, El-Khoury is developing new techniques for communicating STEM concepts and research to those outside the field, making education more accessible and engaging. She has found that the arts are able to better incorporate emotion, allowing the audience to find a more personal and emotional connection to STEM research.

El-Khoury serves on the faculty of the Raleigh School of Ballet and is a member of the American Ecological Engineering Society and ASABE.