Title of research project:

Development of Sensor-enabled geosynthetics (SEG) for performance monitoring of infrastructure facilities

Professor:

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General description of the project:

The student in this HRAP program will be working on the fabrication and testing of sensor-enabled geosynthetic (SEG) specimens to study their electrical and mechanical performance in air and when embedded in soil simulating field conditions. This project is aimed at developing a novel health-monitoring technique for reinforced soil structures that support highway embankments, bridge abutments and similar geotechnical and transportation infrastructure facilities.

This multi-disciplinary project provides students with experiential learning opportunities on topics related to polymers, instrumentation, electrical and mechanical properties of engineering materials and data acquisition systems, among others.

The work will involve learning how to make SEG samples, set up tests and carry out conductivity and tensile strength tests, plot up data and interpret the results.