

DEPARTMENT OF BIOMEDICAL ENGINEERING  
COLLEGE OF ENGINEERING AND APPLIED SCIENCES

SUMMER RESEARCH OPPORTUNITIES FOR UNDERGRADUATE students

FOR APPLICATION YEAR: 2024

PROJECT TITLE: Peapod: Measuring the Forces a Newborn Experiences During Transport Inside, Outside, and Between Hospitals and Other Critical Care Settings

Orlando S. Hoilett, Ph.D.

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Assistant Professor of Biomedical  
Engineering  
College of Engineering and Applied Science  
University of Cincinnati  
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554 Mantei Center  
2901 Woodside Drive  
Cincinnati, OH 45219  
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B01 Bioscience Center  
3159 Eden Avenue  
Cincinnati, OH 45219  
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Email: hoiletos@ucmail.uc.edu  
Phone: 513-556-7826  
Fax: 513-556-4162

### Project Description

During transport, newborns experience quite a bit of physical forces due to the different vehicles and mediums involved in the transport process. The effect of the cumulative forces applied to the newborn may have deleterious effects on their development; however, this phenomenon is not well-studied or characterized. Therefore, we're developing a miniaturized device that can be placed at various locations around an ambulance, helicopter, airplane (and other transport vehicles) and around the transport incubator to measure the forces applied to the newborn during transport.

This project is in collaboration with the neonatal intensive care unit and transport teams at Cincinnati Children's and Cincinnati Medical.