

CNS-2128823 & 2128716, FW-HTF-P: Collaborative Research: Exoskeleton-Assisted Worker Performance Augmentation in Construction, Pls: Z. Zhu & P. Adamczyk, University of Wisconsin -Madison, & F. Dai, West Virginia University

Background

• High work-related musculoskeletal disorders (WMSDs) rate in construction

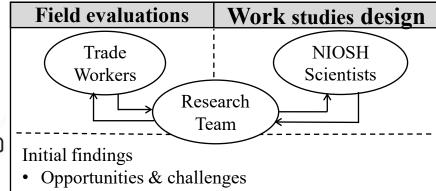


• Exoskeletons & Exosuits (collectively called EXOs): physically relief and/or strength amplification

Objectives

- A human-centered investigation on wearing EXOs in construction workplaces
- A full research agenda development for tackling EXO adoption challenges

Research Plan



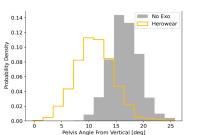
Changes on trade work contexts

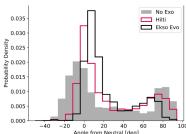
Workshop: conceptualization & convergence Industrial Government Officials **Professionals** Academic Researchers Engineering, Health Science, Economy, Social Science, Education & Training, etc.

Preliminary Results

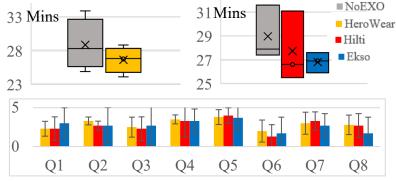








Impacts on worker's motions



Task completion time & worker's opinions on EXOs