

ABSTRACT SUBMISSION

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Development of Effective Methodology for Engineering next Generation High Performance PPE

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ABSTRACT (NO MORE THAN 500 WORDS:)

Gloves, boots, and helmets as subsystems in PPE are critical in responsive operations for firefighters, military personnel, medical practitioners, and law enforcement, as well as industrial and agricultural workers to ensure their safety, health and wellbeing. However, the traditional means of developing and evaluating PPE has been extremely limited due to the lack of knowledge in human physiology, advanced measurement technology, and performance analysis and evaluation. The proposed methodology emphasizes the innovative role that engineering can play by integrating modeling, new measurement technology, and human tests into PPE development, functional design, and performance prediction. As a new approach, it will lead to revolutionary advances in PPE development and manufacturing, as well as training and preparing the next generation of scientists and engineers.