

**Project Title: Personal Protective Technologies for Current and emerging Occupational and Environmental Hazards (Multi-State Project NC-170)**

**Principal Investigator: Grace Namwamba, Ph.D., Professor**

**Objectives**

The overall goal of this project is to conduct research for improving and developing Personal Protective Equipment (PPE) for firefighters, first responders, military personnel, agricultural workers, and medical environments. Southern University is involved in objective #2 aimed at assessing and improving protection and human factor performance of PPE and protective clothing (including hand, foot, and headwear) through research and product development: Our research assesses Human Factors (HF) variables in protective clothing and design research and development in domain areas of fire protection, chemical protection, and medical environments.

**Project Abstract**

Southern University (SU) collaborates with other researchers in the design, development and testing of PPE materials and technologies. Through this approach, we have identified areas of opportunity for research and development in PPE for firefighters, first responders, military personnel, and agricultural workers through analysis of current equipment and use and through foundation research in anthropometrics of under-investigated body areas. We are addressing these identified areas of opportunity to assess and improve protection and human factor performance of PPE and protective clothing through research and product development. We communicate and standardize these findings through the development of research-based performance guidelines for protective equipment. Researchers at Southern University are working with researchers to improve and develop Personal Protective Equipment (PPE) for firefighters, first responders, military personnel, and agricultural workers. Digital technologies such as 3D Body scanning and 3D virtual prototyping are being used to develop PPE and to assess its effectiveness.