The Wearable Motherboard (Smart Shirt)

A Convergence of Advanced Textile, Sensor and Wireless Technologies to Enhance the Quality of Life for Humans.

- The First Smart Shirt is at the Smithsonian Museum in Washington, D.C.

Clothing is an Information Infrastructure that Also Protects and Makes You Look Good!

Fabric is The Computer!

The Scourge of Pressure Injuries

- Pressure Injury: High-Cost Adverse or NEVER Event Across the Healthcare Spectrum
- Patients affected: 2.5 million/year
- Cost: $9.1 - $11.6 billion/year
- Cost per PI: $20,900 - $151,700
- Deaths: ~60,000 patients/year

Most Pressure Ulcers Occur Within TWO Days of Admission!!

Grand Challenges in Respiratory Protection

- The Comfort – Protection Conundrum
- Need for Fit-Testing
- Absence of Real-time Fit Monitoring
- Lack of Reusability
- Shortages

Significant Impact on Human Life!

Technology + Innovation \(\rightarrow\) Enhance Quality of Life