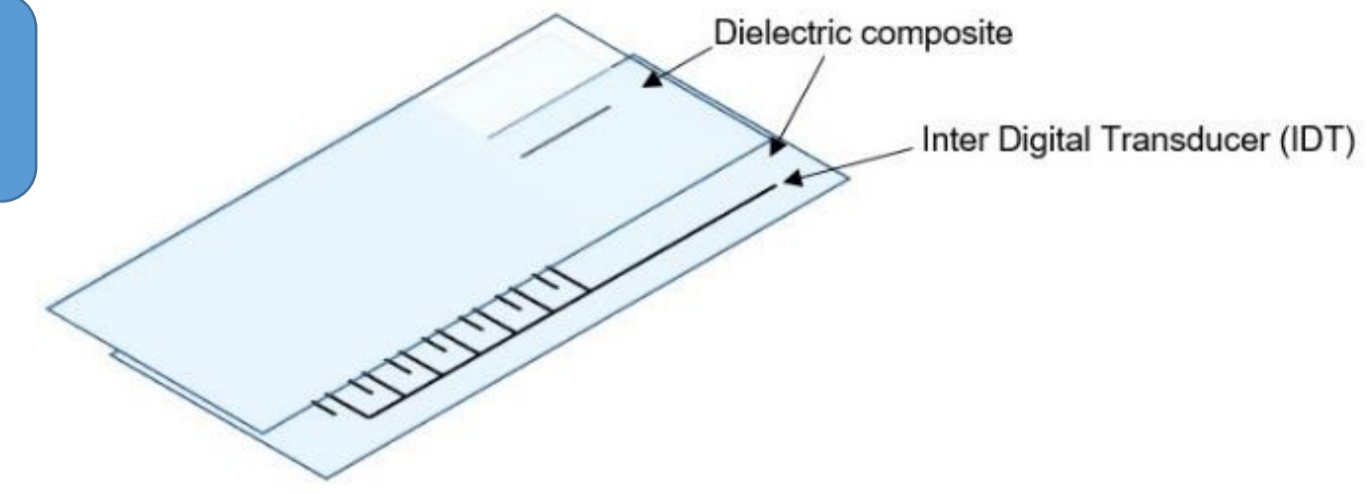
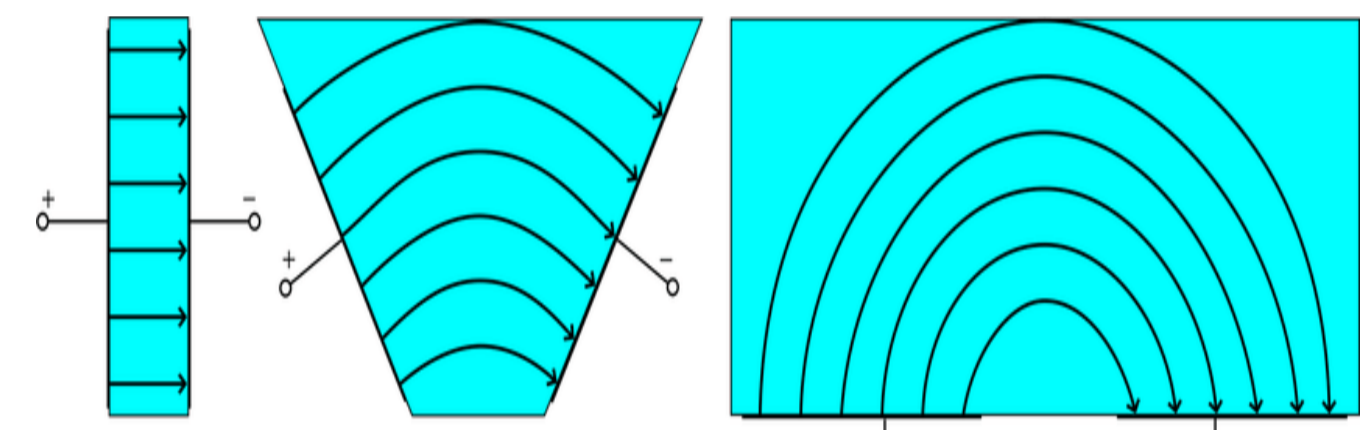


## Need for ceramic-polymer composites

- Advantages:**
- Flexible
  - Freedom of design
  - Synthesis at room temperatures
  - Higher dielectric constant than pristine polymers
- Disadvantages:**
- Less dielectric properties than ceramics



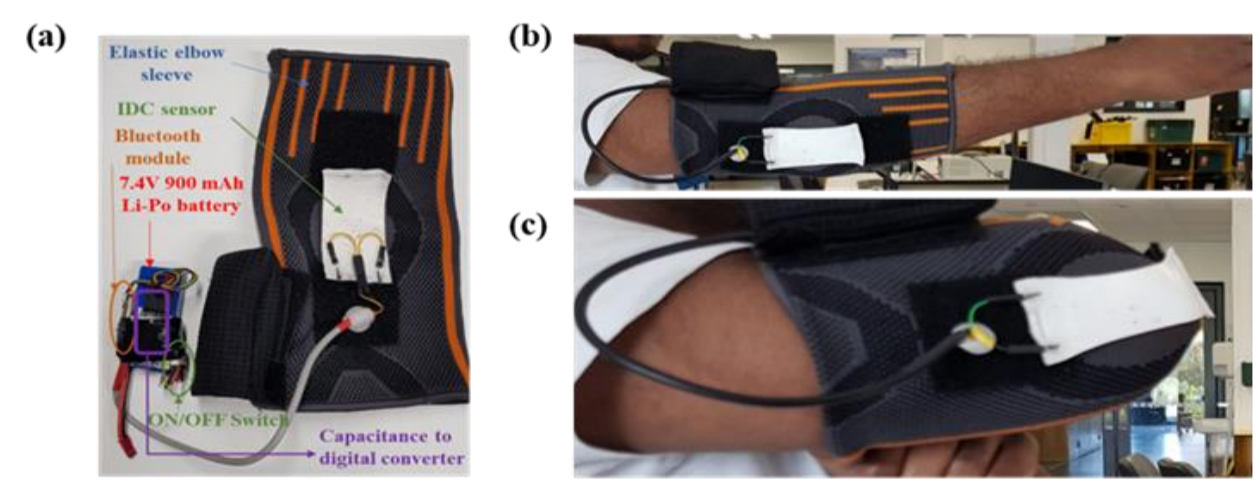
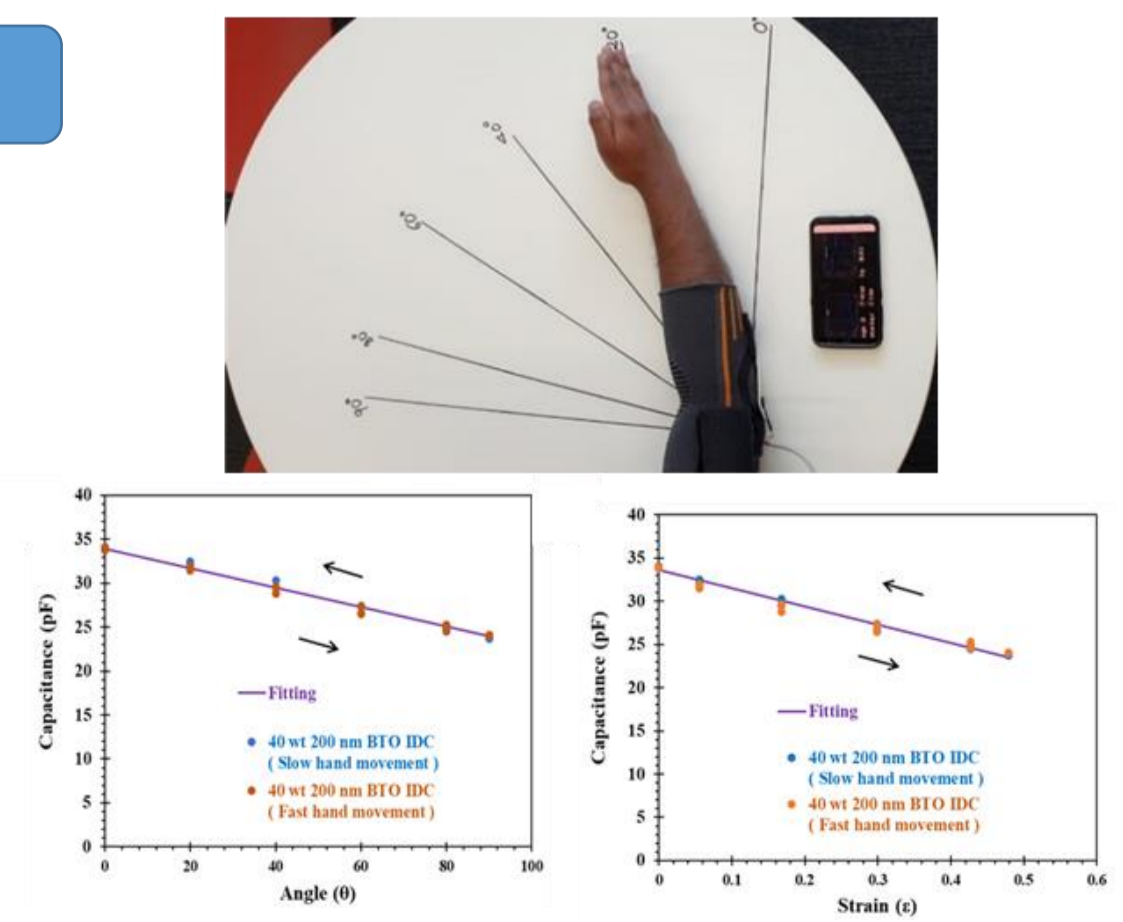
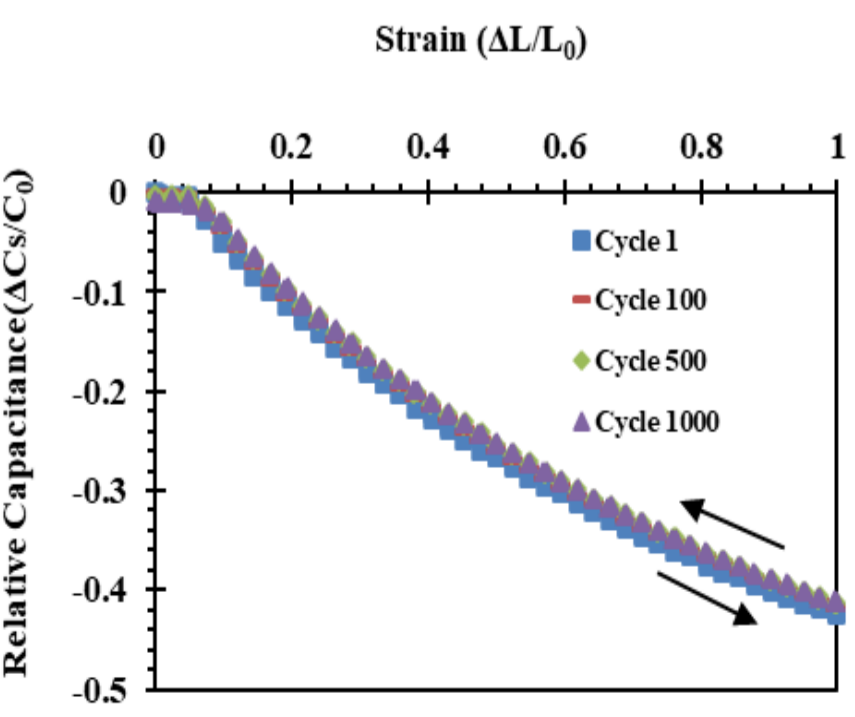
## Stretchable capacitive sensor with IDT



Gradual transition from a parallel plate capacitor to a planar capacitor

## Applications

## Performance of sensor



a) The sleeve with the sensor and Bluetooth module, (b) The sleeve with the arm extended, (c) The sleeve with the elbow bent.

$$C = -0.1009 * \theta + 33.88 \text{ (with R-square = 0.982)}$$

$$C = -21.03 * \epsilon + 33.6 \text{ (with R-square = 0.99)}$$

