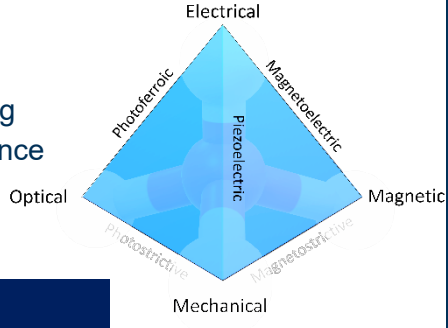
Georgia Tech School of Materials Science and Engineering

GarTen Group Research

Research Interest: Multiferroic Materials

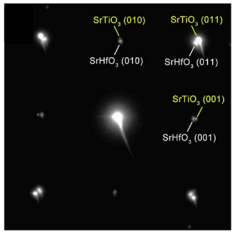
Our group focuses on materials for energy and electronic applications. We synthesis and characterize thin films and heterostructures that combine ferroelectricity, ferromagnetism, and photovoltaics. By building an understanding how these properties couple we will be able to enhance the performance of devices such as solar cells, catalysts, energy harvesters, sensors, ultrasound, and memory.

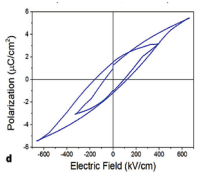


Coupling Properties to Create New Functionalities or Enhanced Response

(Multiferroic → a material with multiple ferroic properties (e.g. ferroelectric, ferromagnetic, ferroelastic, ect.) are present simultaneously)

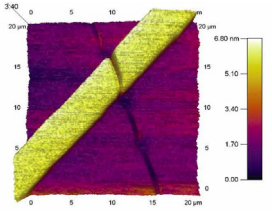
Synthesizing Novel Multiferroic and Electronic Materials





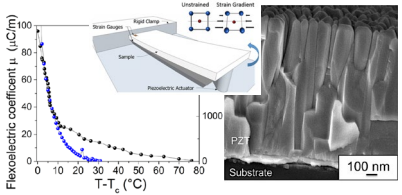
Adv. Mater. **30**, (2018).

Characterizing Electrical, Mechanical, and Optical Property Coupling



Sci. Adv. **5**, eaas9311 (2019).

Testing Material and Device Functionality



Appl. Phys. Lett. **111**, (2017); *J.Appl.Phys.* **117** (2015).