

Previous Status Quo

Broad experience and activity within ceramic engineering, solid state chemistry, nanoparticles, thin films.

Emphasis on in situ structural characterization during growth and operating conditions for oxide materials + DFT simulations.

Project Details

Our group's activities:

- Synthesis of oxide nanorods, nanoparticles and thin films.
- Green chemistry & aqueous synthesis routes.
- Non-ambient XRD, PDF.
- DFT simulations.
- Lead-free piezoelectrics
- Ferroelectrics & multiferroics
- Thermoelectrics
- Transparent conducting oxide
- Quantum dots
- Intermediate band solar cells
- Battery materials and testing
- SOFC and proton conductors
- Membrane materials
- Surfaces and coatings

Challenges

Seeking collaboration within spectroscopic charact. of oxide nanomaterials and for preparing oxide NP for e.g. medical applications.

Next Steps

Exchange of grad students to benefit from complimentary infrastructure.

