# Dasgupta Research Group RESEARCHIaboratory

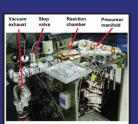


Neil P. Dasgupta **Assistant Professor** Mechanical Engin. Univ. of Michigan, Ann Arbor

### **Atomic Layer Deposition**



- Ultrathin conformal coatings
- Wide range of materials
- Sub-nanometer precision
- Interface modification and tuning
- Customized reactor design

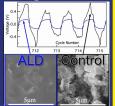




#### **Batteries**

- Solid-state batteries
- Improved cycling efficiency
- Interfacial engineering
- Beyond Li-ion



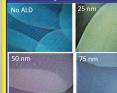


# Energy



#### Bio-inspired Design

- Tunable natural surfaces
- Biotic/abiotic interfaces
- Bioreplication





# Nanostructured Solar Cells

- Earth-abundant materials
- Nanophotonics
- Light trapping
- Anti-reflective coatings



# Nano-systems Engineering

- Nanoscale systems engineering
- Hierarchical nanomaterials
- Spatial/roll-to-roll ALD





#### Artificial Photosynthesis

- Solar water splitting
- Photoelectrochemistry
- Solar-to-fuel conversion

