

## Research Interests

- Scalable nano-manufacturing
- Laser Ablation Synthesis in Solution (LASiS) for composite, intermetallic and metastable nanomaterials
- Laser Induced Breakdown Spectroscopy (LIBS)
- Machine-learning driven materials processing
- Multi-functional nanomaterials for energetic, catalytic and supercapacitor/battery applications
- Numerical modeling for nanoparticle growth and evolution
- Bio-hybrid solar energy conversion, and quantum biology

## Awards & Honors

- FY21 Defense University Research Instrumentation Program (DURIP) award, US DoD.
- Invited speaker for 2026 Energetic Materials Gordon Research Conference

## Funding Agencies:

- Air Force Office of Scientific Research (AFOSR)
- US Office of Naval Research (ONR)
- Department of Energy (US DoE) - Battelle



## Publications

- 45 Published articles
- 3 Book chapters
- 3 US patents
- 2 Invention disclosures

