

The Hosein Research Group

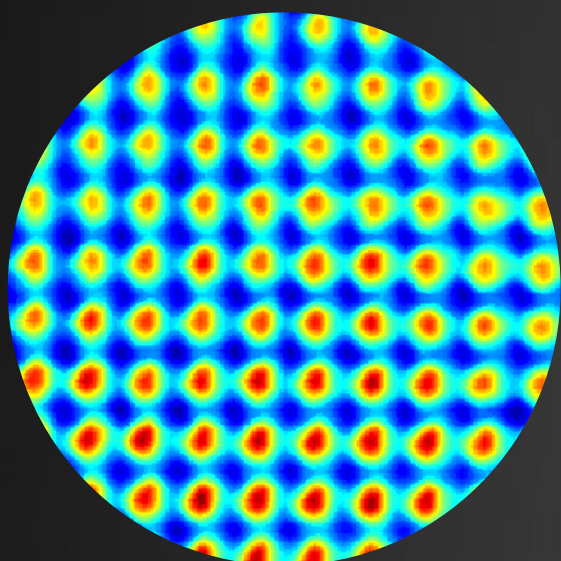
www.hoseingroup.org



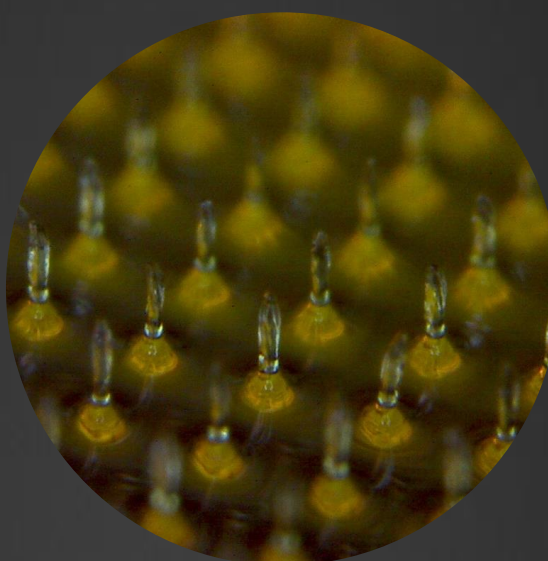
**SYRACUSE
UNIVERSITY
ENGINEERING
& COMPUTER
SCIENCE**

The mission statement of the Hosein research group is to develop materials-based solutions to address global challenges in energy production & storage, environmental remediation, and sustainability. The group's work spans the spectrum from synthesizing new materials to application-driven research and development. We leverage our expertise in materials synthesis and processing, fabrication methodologies, as well as novel materials testing techniques to create new or advanced functionality in technologies. Our research strengths are in high efficiency solar cells, lithium-ion batteries, filtration of oil from water (e.g., oil spills), and smart coatings. Our group fosters a spirit of discovery, ingenuity, risk-taking, and out-of-the-box thinking, and places emphasis on student-led, independent research projects.

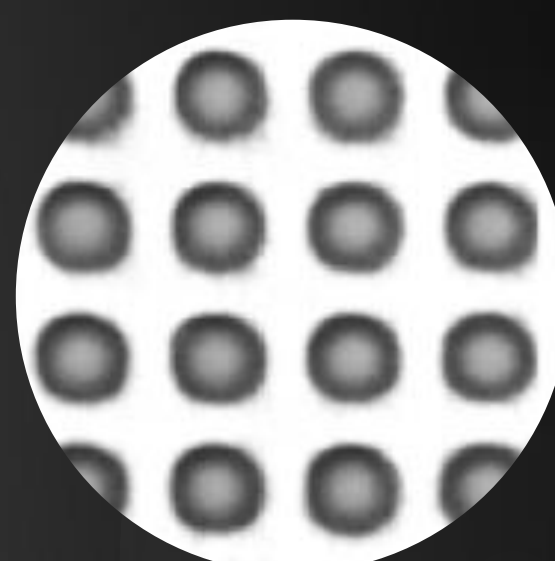
Current Research Projects



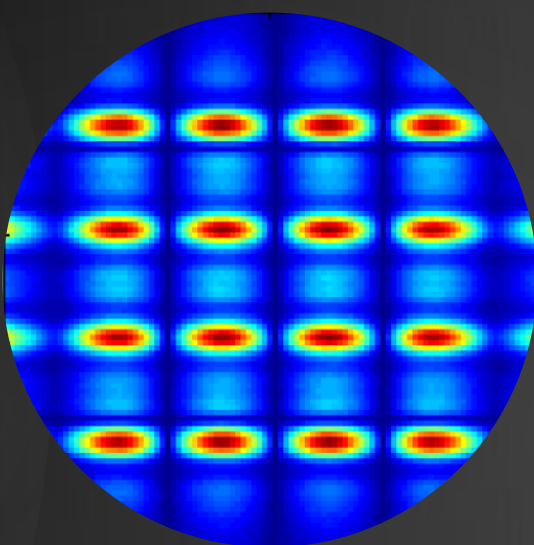
Light Capturing Coatings
for Energy Conversion



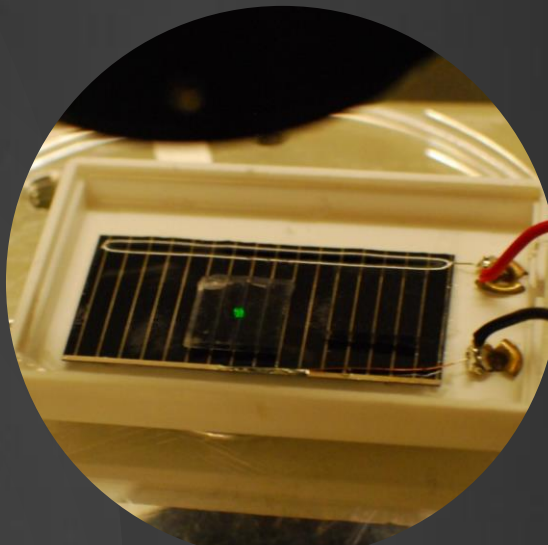
Micro-"fiber" Surfaces
as Smart Coatings



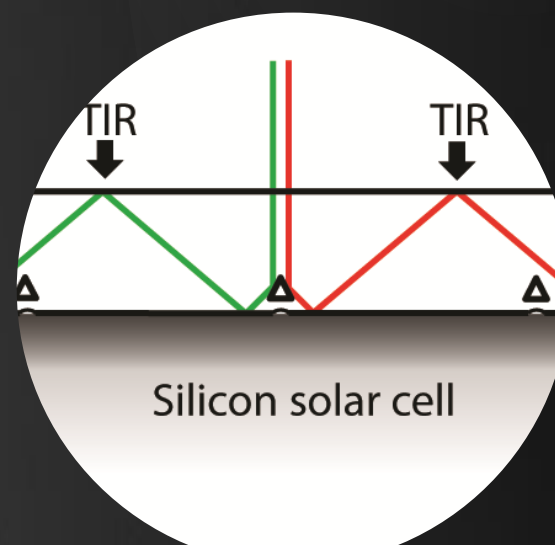
Advanced Composites
for Solid Battery Electrolytes



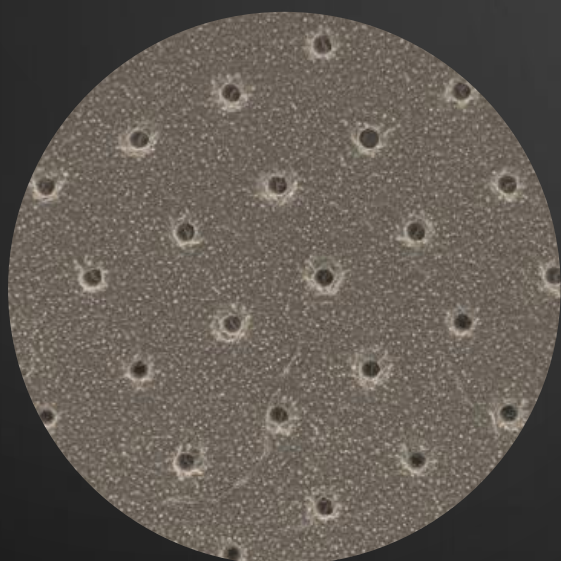
Multiphysics Modeling
of Materials Organization



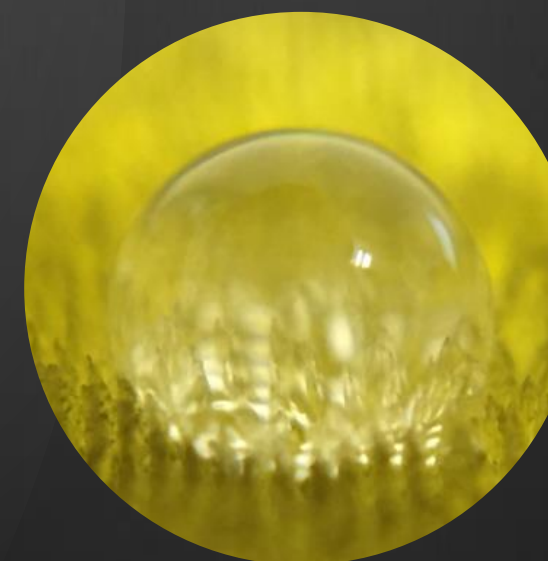
Increased Light Capture
in Solar Cells



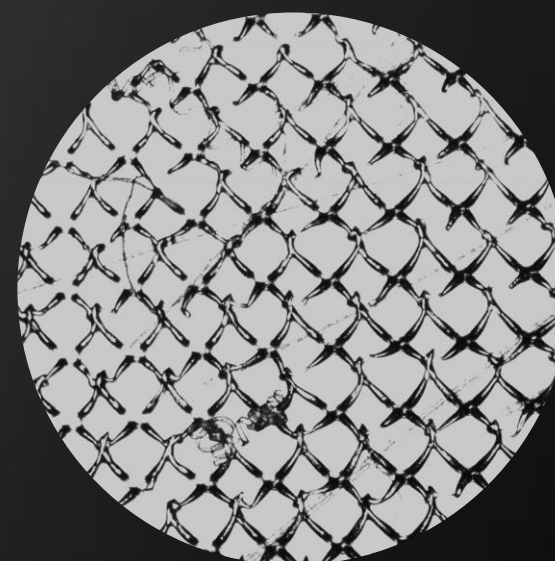
Simulation of Novel
Solar Cell Coatings



Microporous Membranes
for Oil-Water Separation



Anti-Wetting Surfaces
for Windows



Ultra-light, High Strength
Fabrics and Meshes

Our group welcomes philanthropic support for students and our cutting-edge research facility. If you are interested in financially contributing to our promising research efforts please contact Dr. Ian Hosein (idhosein@syr.edu) for details.