Smart Material Solutions

REU Opportunities

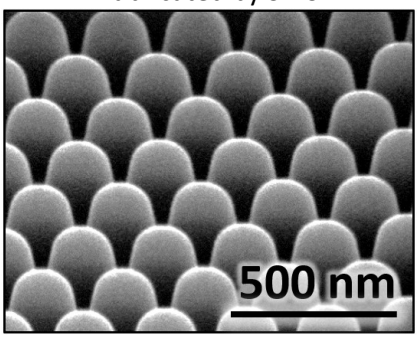
Research Experience for Undergraduates (REU) Opportunities

Smart Material Solutions, Inc. will host two full-time, undergraduate students for 10-week, paid internships in Summer 2019. REU participants must be U.S. citizens, U.S. nationals, or permanent residents of the United States.

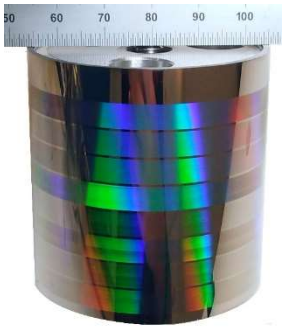
Company Description

Smart Material Solutions, Inc. (SMS) is a small NC State startup in Raleigh, NC that is developing an advanced nanomanufacturing process called *nanocoining*. The patented process can seamlessly nanopattern drum molds for roll-to-roll manufacturing hundreds of times faster than competing technologies. This enables nanopatterning that was previously feasible for only small, academic experiments to be applied on the industrial scale. Nanocoining opens the door for nanostructured surfaces with unique optical and wetting properties to be applied to a variety of commercial products including OLEDs, biosensors, wire-grid polarizers, solar panels, and windows.

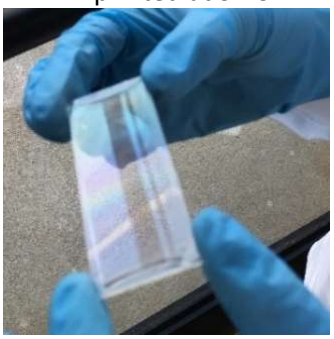
Nanostructures
Fabricated by SMS



Nanostructured Mold
Indented at SMS



Anti-Reflective Film
Imprinted at SMS



Internship 1: Nanocharacterization

This intern will use SMS's molds to create nanostructured polymer films and perform nanocharacterization to compare the 3D shapes of the nanofeatures in the diamond die, indented mold, and replicated polymer film. This student will receive training on several characterization techniques such as SEM, AFM, and confocal microscopy. SMS prefers a student with a background in materials science, chemical engineering, nanotechnology, or a related field.

Internship 2: Thermal Control System

The second REU student will create a temperature control system for SMS's custom ultrasonic resonant actuator. SMS is interested in hiring a student with a strong background in mechanical engineering, thermal systems, and data acquisition.

How to Apply

Please send resumes to miller@smartmaterialsolutions.com and specify which internship interests you.