Postdoctoral Fellowship Opportunity – Two Open Positions

As part of an NSF Center on additive manufacturing we seek 1) a highly motivated organic/polymer chemist/engineer and 2) an electronic processing engineer, for postdoctoral fellowship positions in the NSF funded CREST Center for Complex Materials Design. Current research aims at the synthesis, characterization, and processing of polymer-based architectures used in a variety of technologies and devices ranging from aerospace to medical devices using additive manufacturing techniques. Additionally, expertise is needed in synthesis for energy-related devices and material processing aimed at fabricating such devices structures. Present research problems include gaining a fundamental understanding of different mechanisms of self-assembly and microstructure and how it contributes to structure-property-performance on the macroscale. Responsibilities will include initial material synthesis for additive manufacturing, creation/standardization of analysis processes/characterization for these novel materials, high impact journal publications and strong mentoring of students.

Initial appointment is for one year which is renewable based on satisfactory performance. The resultant structure, dynamics and macroscopic properties (rheology, dielectric, thermal and electrical behavior) of the polymer grafted nanoparticles will be characterized at Argonne National Labs (ANL), Air Force Research Labs (AFRL) and the National High magnetic Field Laboratory (NHMFL).

These positions are through Florida A&M University-Florida State University (FAMU-FSU) Department of Chemical and Biomedical Engineering/Industrial and Manufacturing Engineering. The work will mainly be performed at the FAMU-FSU College of Engineering and satellite labs that include the NHMFL and HPMI, but also in collaboration with Harvard University, ANL and AFRL. Experimental work will be complemented with theoretical efforts in collaboration with Dr. James Swan at MIT.

Skills and Requirements

- Polymer synthesis and grafting of polymer chains to particle surfaces (for example controlled polymerizations and “click” chemistry) – Position 1
- Purification and characterization of synthesized particles and polymers.
- Knowledge of scattering and rheological methods to characterize the resultant nanocomposites properties is a plus.
- Device fabrication and characterization – Position 2
- Excellent written English and oral communication skills are required.
- Ability to work independently and mentor graduate and undergraduate students.
- Ability to work complementary to PI’s and Post Docs

Applicants should contact Drs. S. Ramakrishnan and T. Dickens by email with a CV and contact information of 3 references. Selected candidates will receive an expedited interview application for the final position.

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