

Postdoctoral Researcher

Research group of Delia Milliron at UT Austin; Inorganic nanocrystals, their properties, assemblies, and devices

Summary:

A postdoctoral position in the field of inorganic nanocrystal materials is available at The University of Texas at Austin (UT Austin). This position will include aspects of chemical synthesis, characterization, materials integration, and quantitative evaluation of properties of colloidal inorganic nanocrystals. Focus areas may include electrochromic nanocrystal films for smart window or dynamic thermal control applications; electronic transport in nanocrystal films and polymer nanocomposites; or optical properties of plasmonic nanocrystal assemblies. Besides strong laboratory skills, the successful candidate should have demonstrated ability to work in a collaborative team and to communicate ideas and results effectively.

The Milliron group (<http://nanocrystal.che.utexas.edu>) is based in the McKetta Department of Chemical Engineering and housed in a newly built laboratory space adjacent to related research groups in chemistry and chemical engineering and nearby advanced characterization facilities. The group maintains active collaborations across multiple departments at UT Austin, among participants in the NSF MRSEC Center for Dynamics and Control of Materials (mrsec.utexas.edu), and at institutions around the world.

Duties may include:

Synthesis of inorganic nanocrystals in the solution phase and materials characterization of synthesized particles using techniques such as: transmission or scanning electron microscopy (TEM or SEM), X-ray diffraction (XRD) and small angle X-ray scattering (SAXS), optical (UV-Vis-NIR) spectroscopy, infrared spectroscopy (FTIR), thermal analysis such as thermogravimetric analysis (TGA); integration of nanocrystals into films and composite materials for example by spin coating, evaporative assembly, atomic layer deposition, etc; microscopic characterization of films and composite materials using techniques including SEM and SAXS; quantitative analysis of functional properties of materials such as electrical or ionic conductivity, spectroelectrochemical response, etc; electromagnetic simulations of the near- and far-field optical properties of nanocrystals and their assemblies.

Qualifications:

Ph.D. in Chemistry, Physics, Chemical Engineering, Materials Science, or a related field with experience in at least some of the techniques listed above. Critical analysis and communication skills should be demonstrated through publication of research in peer reviewed journals.

Contact:

To apply contact Delia Milliron (milliron@che.utexas.edu) with a cover letter and CV including two potential references.