

**Opening for Postdoctoral Researcher,
Visiting Scholar and/or Exchange Student at Howard University, Washington, DC, USA**

We are looking for 2 chemists to work on the polymer composite projects funded by NIH, Colgate-Palmolive Company and other resources. The projects are related to developing new polymer nanocomposites for biomedical application. The position is for one year appointment at first, but renewable based on the available funding.

Your duties will include:

- Prepare organic or inorganic nanoparticle and microparticle;
- Synthesize polymers with defined structure and functional groups, e.g. block copolymers;
- Prepare polymer-inorganic nanocomplex or nanocomposite;
- Materials characterization by NMR, FTIR, UV-vis, SEM, TEM, DLS, XRD, TGA, etc.
- Biological test: cell culture, cytotoxicity test; and • Mechanical test.

Your qualifications:

- Good personality and self-motivation to innovative research are most important.
- Experience in organic synthesis OR polymer chemistry is essential.
- Knowledge to nanomaterials or polymer materials, particularly organic-inorganic hybrid materials would be desirable.

Other information:

You will mainly work with Dr. Tongxin Wang at the Crest Center for Nanomaterials at Howard University, but may have opportunities to work with external scientists from College of Dentistry, National Institute of Standard and Technology (NIST) and Colgate-Palmolive Company. Dr. Tongxin Wang obtained his Ph.D. from ICCAS in 2003. After postdoc research at the Max Planck Institute of Colloids and Interfaces and University of Pennsylvania, he is currently an Assistant Professor dually appointed with Crest Center for Nanomaterials and College of Dentistry at Howard University, Washington. Dr. Wang's research focuses on polymer nanocomposites for biomedical application and bio-inspired nanocomposites. Current projects are funded by NSF, NIH and Colgate-Palmolive Company. The recruited person will work on either of the following projects:

Project 1: Bioinspired Polymer Nanocomposites for Tooth Care: This research aims at developing bioinspired polymers as well as their nanocomplex for effective tooth care. One aim of the proposed research is to develop polymers with special structure to strongly bind with tooth and form a barrier to protect tooth. The other aim is to develop polymers which contain the analogue to the natural biomolecules for tooth protection. The polymer nanocomplex can mimic the mechanism of natural biomolecules on tooth care. Such materials would have high likelihood to be formulated within toothpaste, dentifrice or mouth-rinse for oral care.

Project 2: High Strength Bioresorbable Nanocomposites for Bone Repair: Bioresorbable composites are clinically desirable for bone repair and tissue engineering in comparison to current metallic implants, because they do not need to be removed by surgery after the bone heals. However, the critical barrier for their success wide application is the weak strength. As an NIH high priority project, this research aims at developing bioresorbable composites with significantly improved mechanical properties by combination modern polymer chemistry and nanotechnology. Clinically, using these bioresorbable materials with improved mechanical properties to bone fixation and repair will avoid the side effect of metallic implants and eliminate the pain of patient.

Apply: To apply for this position, please send your application including a cover letter, CV, a list of contact information of 2 or 3 references to Dr. Tongxin Wang by email (twang@howard.edu). In the cover letter, please specify which level you want to apply, and briefly describe your research experience, personality and anything else you wish to describe. Please feel free to contact Dr. Wang by email if you have any question.