



CANCER PREVENTION & RESEARCH INSTITUTE OF TEXAS

Award ID:
R1104

Project Title:
Recruitment of First-Time, Tenure-Track Faculty Members

Award Mechanism:
Recruitment of First-Time, Tenure-Track Faculty Members

Principal Investigator:
Wang, Jin

Entity:
Baylor College of Medicine

Lay Summary:

Dr. Jin Wang received his B.S. degree from Peking University in 2003 and went to the U.S. for graduate school. Under the guidance of Prof. Matthew S. Platz, who is currently the director of the chemistry division at the National Science Foundation, he completed his Ph.D. degree in Chemistry from the Ohio State University in 2007. Then he joined the group of Prof. Joseph M. DeSimone, Chancellor's Eminent Professor of Chemistry at University of North Carolina at Chapel Hill, as a postdoctoral researcher. His future research interests lie at the interface of nanotechnology and biology. He will apply his solid chemistry background to develop nanoparticle based novel cancer imaging strategies and therapies.

Dr. Wang's Ph.D. research was in the field of physical organic chemistry and involved using state-of-the-art ultrafast time-resolved spectroscopy and quantum calculations to study reactive intermediates, particularly carbenes and nitrenes. His study contributed to the understanding of organic reaction mechanisms and the development of novel photoaffinity labeling probes. His four-year graduate research led to twenty-one papers, thirteen of which were published in the Journal of the American Chemical Society. In a University-wide graduate student research competition, he was selected as one of only 15 Ohio State University Presidential Graduate Fellows. In addition, due to his expertise in this field, he is frequently invited as a reviewer for highly cited chemistry journals such as Journal of the American Chemical Society, Journal of Organic Chemistry and Organic Letters.

At UNC-Chapel Hill, Dr. Wang has been pursuing his postdoctoral training with Prof. Joseph M. DeSimone, one of the directors of NCI's Centers for Cancer Nanotechnology Excellence (CCNE). Dr. Wang's research focus has been on the application of nanotechnology for biomedical treatments, especially for cancer therapies. Taking advantage of PRINT® technology invented by DeSimone et al., he has developed targeted drug delivery vectors for cancer imaging and therapy. He has also invented a "drug-free nanomedicine" strategy for targeted cancer therapy through the multivalent presentation of targeting ligands with nanoparticles and demonstrated specific killing for a type of aggressive B-cell lymphoma, which led to a U.S. patent and a publication in the Journal of the American Chemical Society. Currently, his work is focused on intracellular protein delivery with pure protein nanoparticles fabricated with PRINT technology as well as the development of a novel crosslinker for protein conjugation and modification, which will have great impact on the pharmaceutical industry (patent pending).

Dr. Wang's future research interests will mainly focus on applying nanotechnology for cancer research, including 1) developing novel vascular targeted particles for cancer imaging and therapy; 2) exploring multivalent nanoparticles for cancer targeting and therapy; and 3) applying nanotechnology to improve photodynamic therapy. His research goal is to take advantage of nanotechnology to address unmet needs in the development of cancer therapeutics and to translate his research from benchside to bedside to improve the quality of life of cancer patients.