

Naiquan Zheng
Center for Biomedical Engineering and Science



RESEARCH

Develops and tests new techniques for restoring human joint function and fall prevention.

Dr. Naiquan (Nigel) Zheng

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UNC CHARLOTTE

Biomechanics and Motion Analysis Lab at UNC Charlotte aims to advance understanding of the musculoskeletal system by studying human body movement and joint biomechanics. By developing and using the latest technologies, we continue the search for better diagnosis and treatment of musculoskeletal disease.

Naiquan (Nigel) Zheng is an associate professor in the Department of Mechanical Engineering and Engineering Science and the Biomechanics and Mobility Research focus area leader in the Center for Biomedical Engineering and Science. His research specialties are human motion analysis and orthopedic biomechanics. He is a pioneer in studying 3D human knee joint motion using a noninvasive approach and throwing biomechanics. He is a leader in computational modeling and simulation of human joint biomechanics in an effort to assist physicians in designing better surgical and nonsurgical treatments of musculoskeletal disease.

Dr. Zheng's group has been investigating the injury mechanisms of human joints during daily and sports activities, altered joint motion following injury and treatment such as ACL reconstruction and total knee arthroplasty. Working with surgeons and clinicians, his group performs biomechanical testing and comparison of different surgical techniques, treatments, rehabilitation protocols in seeking better solutions to restoring human joint functions and fall prevention.

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