

My research interest is to test mechanical reliability of different materials for biomedical application such as Shape Memory Alloys, GAC Orthodontic wires etc. I also study the effects of laser treatment on fatigue and fracture behavior of materials. In current study, different type of lasers with different pulse width was used to machine AISI 316 LVM biomedical grade stainless steel wires. The mechanical behavior was evaluated in uniaxial tension, and in cyclic strain controlled fatigue to provide fully reversed bending fatigue. This project is funded through generous support of Nitinol Commercialization Accelerator Center, Case Metal Processing Laboratory, Center for Mechanical Characterization of Materials (CMCM) and Medical Device Solutions at Cleveland Clinic.