Richard Johnson

Undergraduate Student Researcher

Micro and Nano Mechanics Laboratory New Jersey Institute of Technology E-mail: rjohnson6459@gmail.com Mobile: (201)-788-4925

CURRENT	New Jersey Institute of Technology 323 Dr. Martin Luther King Jr. Blvd Newark, NJ 07102 USA	
FIELD	Mechanics: Solid Mechanics	
EDUCATION	New Jersey Institute of Technology , Newark, New Jersey B.S., Mechanical Engineering, GPA 3.81, Expected Graduation: December 2016	
NOTABLE COURSES	Stress Analysis, Machine Design, Thermodynamics, Heat Transfer, Introduction to Computer Aided Design, Linear Algebra, Differential Equations, Machine Design, Kinematics of Machinery, Introduction to System Design	
TECHNICAL SKILLS	Scanning Electron Microscopy and Analysis Nanoindentation ANSYS Abaqus Atomic Force Microscopy SOLIDWORKS	
HONNORS	1 st Place Innovation Design Project, New Jersey Institute of Technology, Fall 2012 Innovation Showcase, Newark, NJ, 2012	
	Pi Tau Sigma, The Mechanical Engineering Honors Society, 2014	
GRANTS	Phase One Undergraduate Student Seed Grant, April 2016 Phase Two Undergraduate Student Seed Grant, May 2016	
PROJECTS	 Effect of Temperature on the Fracture Behavior of Lead Free Solder Joints Conducted solder joint fracture experiments at -50oC using an MTS machine Carried out SEM analysis of the fractured surfaces of lead free solder/Cu joint Analyzed the micro surface of fractured lead free solder to determine the mode of failure Presented the research work at the 2016 international SES conference at the University of Maryland. 	2 016 .f
	Design of a Testing Methodology to Measure the Polymer/Ceramic 20 Interface in a Battery	016

• Designed a test method to measure the fracture energy between silicon and PVDF

•	Developed a sample preparation method by sandwiching PVDF between a bar of
	silicon and a bar of fused silica to generate a double cantilever beam

• Built a microscopic imaging system was used to characterize the fracture of the polymer/ceramic interface

PUBLICATIONS P. Thompson, R. Johnson, S. Nadimpalli, The Effect of Temperature on the Fracture Behavior of Lead-Free Solder Joints, Engineering Fracture Mechanics, in preparation, 2017

CONFERENCER. Johnson, P. Thompson, S. Nadimpalli, The Effect of Temperature on the FracturePRESENTAIONSBehavior of Lead-Free Solder Joints, Annual Technical Conference of the Society of
Engineering Sciences, University of Maryland, College Park, MD, October 2016.

OTHERPoster – R. Johnson, J. Krammer, K. Kikomeko, Design of a Fishing Reel, 2012 FallPRESNTATIONSInnovation Showcase, New Jersey Institute of Technology, Newark, NJ, December 2012

Poster – R. Johnson, URI Phase 2 Research Proposal, Undergraduate Research and Innovations Student Seed Grant Workshop, New Jersey Institute of Technology, Newark NJ, May 2016

Poster – R. Johnson, The Design of a Testing Methodology to Measure the Polymer/Ceramic Interface in a Battery, Ninth International Summer Research Symposium, New Jersey Institute of Technology, Newark, NJ, July 2016

Poster – Richard Johnson, E. Holtzer, T. Vanwart, The Design of an Insulating Shell to Detect Temperature and Humidity of a Beehive Over the Winter Months, Northeast New Jersey Beekeepers Association Meeting, Mahwah, NJ, October 2016

MISCELLANEOUS Secretary, Pi Tau Sigma, Newark, NJ, 2015 - 2016

Alternate Member, Montvale Environmental Committee, Montvale, NJ, 2015 - Present

Active Member, American Society of Mechanical Engineers, Newark, NJ, 2012 - Present