

Sina Askarinejad

CONTACT INFORMATION	19 Lee st. Worcester, Massachusetts 01602	<i>Voice:</i> 508-410-0762 <i>E-mail:</i> saskarinejad@wpi.edu <i>WWW:</i> http://sinaaskarinejad.weebly.com/
RESEARCH INTERESTS	Bio-mechanics, Bio-inspired Materials, Multi-layered Composites, Toughening Mechanisms, Finite Element Methods, Shear-lag Theory, Freeze-casting Method, Atomic Force Microscopy (AFM), Nanotechnology, Nacre, Bamboo	
EDUCATION	Worcester Polytechnic Institute , Worcester, Massachusetts USA Ph.D. Candidate, Mechanical Engineering, August 2013 (expected graduation date: December 2016) <ul style="list-style-type: none">• Dissertation Topic: "Mechanics of Biological Composites"• Advisor: Nima Rahbar Worcester Polytechnic Institute , Worcester, Massachusetts USA M.S., Mechanical Engineering), Sep. 2011 <ul style="list-style-type: none">• Thesis Topic: "Deformation Mechanisms in Bio-inspired Multi-layered Materials"• Advisor: Nima Rahbar Sharif University of Technology , Tehran, Iran B.S., Mechanical Engineering, Sep. 2006	
HONORS AND AWARDS	First Prize , NanoWorcester Symposium poster competition, September 2013, Clark University, Worcester, Massachusetts USA Third Prize award for the best research in Worcester Polytechnic Institute, March 2013, Worcester, MA USA Travel Award , Society of Engineering Science Conference, August 2013, Brown University, Providence, RI USA Financial Support Award , Society of Engineering Science Conference, August 2015, Texas A&M University, Collage Station, TX USA Travel Award , Engineering Mechanics Institute Conference, June 2015, Stanford University, Stanford, CA USA WPI Graduate Student Government Travel Grant , March 2015 Nominee for Best Poster Award (15 out of 500) , Materials research Society Conference, December 2014 First Prize , 5th NanoTechnology Symposium, April 2016, Mount Ida College, Newton, MA USA	
ACADEMIC EXPERIENCE	Worcester Polytechnic Institute , Worcester, Massachusetts USA <i>Graduate Student</i> May, 2012 - present Includes current Ph.D. research, Ph.D. and Masters level coursework and research. <i>Teaching Assistant</i> August, 2011 - May, 2012 and January, 2016 - May, 2016 Duties at various times have included office hours, grading and co-teaching for courses such as: Matrix Analysis of Structures, Thermal Systems Design, Mechanical Systems Design and Robotics, Mechanics of Materials (class and laboratory)	

PUBLICATIONS

Askarinejad, S., & Rahbar, N. (2015). Toughening mechanisms in bioinspired multilayered materials. *Journal of The Royal Society Interface*, 12(102), 20140855.

Askarinejad, S., Rahbar, N., Sabelkin, V., & Mall, S. (2015). Mechanical behavior of a notched oxide/oxide ceramic matrix composite in combustion environment: experiments and simulations. *Composite Structures*, 127, 77-86.

Youssefian, S., Liu, P., Askarinejad, S., Shalchy, F., Song, J., & Rahbar, N. (2015). Experimental and numerical measurements of adhesion energies between PHEMA and PGLYMA with hydroxyapatite crystal. *Bioinspiration & biomimetics*, 10(4), 046011.

Askarinejad, S., Kotowski, P., Shalchy, F., & Rahbar, N. (2015). Effects of humidity on shear behavior of bamboo. *Theoretical and Applied Mechanics Letters*, 5(6), 236-243

Askarinejad, S., Kotowski, P., Youssefian, S. & Rahbar, N. Fracture and Mixed-Mode Resistance Curve Behavior in Bamboo, *Mechanics Research Communications*, 2016

Askarinejad, S., Rahbar, N. Effects of CSH/Polymer Interface Properties on Mechanical Response of Fiber-Reinforced Cement Composites. *Journal of Nanomechanics and Micromechanics*

Askarinejad, S., Rahbar, N. Role of Interface on the Mechanics of Bio-inspired Lamellar Structured Ceramic/Polymer Composites. *Journal of Mechanics and Physics of Solids*.

PAPERS IN PREPARATION

Askarinejad, S., Shalchy, F., Rahbar, N. Mixed Mode Fracture Properties of Wood/Adhesives

Askarinejad, S., Shalchy, F., Loeian, M., Rahbar, N. Structural and Adhesion Properties of Bamboo Microfibers

Askarinejad, S., Rahbar, N. Role of Organic-Inorganic Interface Properties in Nacreous Structures

Askarinejad, S., Flavin, C., Rahbar, N. Effect of Platelets' Waviness on Mechanical Response of Nacreous Structures

CONFERENCE PRESENTATIONS

Role of Organic-Inorganic Interface Properties in Nacreous Structures, May 2016, Nashville, Tennessee

Mechanical Behavior of a Notched Oxide/Oxide Ceramic Matrix Composite in Combustion Environment: Experiment and Simulations, TMS 144th Annual Meeting and Exhibits, March 2015, Orlando, FL Deformation Mechanisms in Biological Multilayered materials, National Congress on Theoretical & Applied Mechanics, June 2014, Michigan State University, MI

A physics-based model for mechanical deformation in nacre, Materials Research Society (MRS) meeting and exhibit, December 2013, Boston, MA

Toughening Mechanism in Bioinspired Multilayered Materials, New England Workshop on mechanics of materials and structure (MewMech), October 2013, Northeastern University, Boston, MA

Toughening Mechanism in Multilayered Materials, Engineering Mechanics Institute (EMI) Conference, August 2013, Northwestern University, Evanston, IL

Deformation Mechanisms in Nacre, Society of Engineering Science (SES) Annual Meeting, July 2013, Brown University, Providence, RI

AFFILIATIONS AND LEADERSHIPS	<p>President, Material Research Society (MRS) WPI student chapter, August, 2016-present</p> <p>Associate Member, Lecture club at WPI, October, 2015-present</p> <p>Member, American Society of Civil Engineers (ASCE), 2014-present</p> <p>Co-Founder, Iranian Student Association at University of Massachusetts, 2011</p>
PROFESSIONAL EXPERIENCE	<p>Major Qualifying Project, Sharif University of Technology, Tehran, Iran</p> <p><i>Research Assistant</i> May, 2009 - August, 2010</p> <p>Gas turbine cycle in Compressed Air Energy Storage (CAES) system</p> <p>Design and manufacturing of Sahand Electric Car, second competitions in Design & Manufacture of Two-Passenger Electric Car, Tehran, Iran</p> <p><i>Steering and Suspension Group Head</i> September, 2008 - August, 2009</p> <p>Farab Group-Siah Bisheh Site, Siah Bisheh, Iran</p> <p><i>Internship</i> May, 2009 - August, 2009</p> <p>In this three-month period of working in one of the biggest companies in Iran, I assisted a group of engineers focused on the water transfer tunnels. We ended up with the best way to assemble the water transfer pipes.</p> <p>Saipa Automotive Manufacturing Group, Tehran, Iran</p> <p><i>Internship</i> May, 2008 - August, 2008</p> <p>As my first industry experience, I assisted the transmission design group in Saipa. we ended up with the best way to improve the quality of transmission systems in one of the cars manufactured and assembled in that company.</p>
COMPUTER SKILLS	<ul style="list-style-type: none"> • Computer: Abaqus; Matlab & Simulink; Solidworks; LaTeX; • Lab Techniques: AFM, SEM, XRD, AFM, Instron.
GRADUATE COURSES	<p>Finite Elements Method, Theory of Elasticity, Continuum Mechanics, Structure and Properties of Materials, Electron Microscopy (SEM, TEM), Fracture Mechanics, Crystallography and XRD, Applied Numerical Methods, Advanced Vibration, Advanced Fluid Mechanics</p>
LANGUAGE	<ul style="list-style-type: none"> • English: Fluent • Farsi: Native • French: Intermediate (DELF A2 exam Certificate)