

HAROLD S. PARK

ADDRESS 110 Cummington Mall Phone: (617) 353-4208
Dept. of Mechanical Engineering Fax: (617) 353-5866
Boston University Email: parkhs@bu.edu
Boston, MA 02215 Web: <http://people.bu.edu/parkhs/>
Google scholar: <http://scholar.google.com/citations?user=0djtQ1gAAAAJ&hl=en>

CURRENT POSITION

Professor, Department of Mechanical Engineering, Boston University, February 2017-present

PREVIOUS POSITIONS

Associate Chair for Graduate Programs, Department of Mechanical Engineering, Boston University, July 2021-November 2021

Associate Dean for Research and Technology Development *ad interim*, College of Engineering, Boston University, July 2019-June 2020.

Director, Masters Degree Programs, Department of Mechanical Engineering, Boston University, 2017-2019.

Visiting Professor, Universite Paris-Est Marne-la-Vallee, May 2016

Associate Professor, Department of Mechanical Engineering, Boston University, September 2012-February 2017

Assistant Professor, Department of Mechanical Engineering, Boston University, January 2010-August 2012

Mechanical Engineering Chair's Faculty Fellow

Assistant Professor, Department of Mechanical Engineering, University of Colorado at Boulder, September 2007-December 2009

Assistant Professor, Department of Civil and Environmental Engineering, Vanderbilt University, September 2005-August 2007

EDUCATION

Postdoctoral Appointee, Sandia National Laboratories, 09/2004-07/2005

Science-Based Material Modeling Department, Livermore, CA

Post-doctoral Advisor: Dr. Jonathan A. Zimmerman

Northwestern University, Evanston, IL

Ph.D. Mechanical Engineering 2004

Thesis: "*Multiple Scale Methods for the Design and Analysis of Solids*"

Advisor: Professor Wing Kam Liu

M.S. Mechanical Engineering 2002

Thesis: "*Meshfree Simulations of Dynamic Adiabatic Shearbands*"

Advisor: Professor Wing Kam Liu

B.S. Mechanical Engineering 1999

Research Assistant, Engineering Sciences Summer Institute (ESSI), Sandia National Laboratories, Livermore, CA. Summers 1999, 2000, 2001, 2002, 2003

AWARDS

- International Association for Computational Mechanics (IACM) Fellow, 2022
- U.S. Association for Computational Mechanics (USACM) Fellow, 2021
- ASME Fellow, 2016
- International Association for Computational Mechanics (IACM) John Argyris Award for Young Scientists, 2016. Awarded “for groundbreaking contributions to multiscale science and engineering, and for foundational contributions to the computational mechanics of nanomaterials”.
- ASME Sia Nemat-Nasser Early Career Award in Mechanics of Materials, 2012. Awarded for “elucidating surface effects on the plastic deformation mechanisms and mechanical properties of crystalline nanowires”.
- U.S. Association for Computational Mechanics (USACM) Richard H. Gallagher Young Investigator Award, 2009. Awarded for “groundbreaking contributions to computational nano mechanics and materials”.
- Mechanical Engineering Chair’s Faculty Fellow, 2008-2009
- Woodward Outstanding Mechanical Engineering Faculty Award, 2007-2008
- DARPA Young Faculty Award 2008
- NSF CAREER Award 2007

ELECTED PROFESSIONAL POSITIONS

- Executive Council, US Association for Computational Mechanics, 2014-2018
- Chair, ASME Committee on Computing in Applied Mechanics, 2016-2018
- Vice-Chair, ASME Committee on Computing in Applied Mechanics, 2014-2016

EDITORIAL BOARDS AND EDITORSHIPS

- Editorial Advisory Board, *Matter*, 2018-2021
- Editorial Board, *Computers, Materials and Continua*, 2018-
- Editorial Advisory Board, *Computational Mechanics*, 2018-
- Associate Editor, *ASME Journal of Applied Mechanics*, 2015-2017
- Associate Editor and Editorial Board, *Journal of Nanomechanics and Micromechanics*, 2014-
- Editorial Board, *Finite Elements in Analysis and Design*, 2014-
- Editorial Board, *Nature Scientific Reports*, 2014-2022
- Editorial Board, *Nano Convergence*, 2013-
- Assistant Editor, *Computational Mechanics*, 2012-2018
- Editorial Board, *Computer Methods in Applied Mechanics and Engineering*, 2011-

PUBLICATION SUMMARY

- 189 refereed journal publications
- Citations: More than 15200 (Google Scholar) as of January 2024
- H-Index: 69 (Google Scholar)

SIGNIFICANT RESEARCH CONTRIBUTIONS

- 2D/3D Bridging scale methods for concurrent atomistic-continuum coupling
- Development of Surface Cauchy-born model for surface-dominated nanomaterials
- Elucidating surface effects on the plastic deformation mechanisms and mechanical properties of crystalline nanowires
- Formulation and analysis of opto-mechanical coupling, i.e. strain effects on plasmon resonance of metal nanostructures
- Mechanics and electromechanics of two-dimensional nanomaterials
- Monolithic and staggered electromechanically coupled finite element formulations for finite deformation of soft, electroactive polymers
- Development of slow strain-rate, long time-scale atomistic simulation methods
- Topology optimization methods for piezoelectric, flexoelectric, and topological mechanics problems
- Machine learning methods for inverse design of functional metamaterials