Yueqi Hu

Scholarly Assistant Professor
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EDUCATION

Ph.D. in Mechanical Engineering 07. 2017
Washington State University, Pullman, WA.

M.S. in Mechanical Engineering 07. 2011
Washington State University, Pullman, WA.

B.S. in Mechanical Engineering 06. 2009
Huazhong U of Sci. and Tech., Wuhan, China.

TEACHING EXPERIENCE

Washington State University Everett, Everett, WA 01. 2021 ~ Current

Scholarly Assistant Professor

- System Dynamics
- Mechatronics

University of Wisconsin - Platteville, Platteville, WI 08. 2017 ~ 12. 2020

Instructor

- Dynamical Systems
- Measu. and Instru. Lab.
- Intro. to Comp. Methods

Washington State University, Pullman, WA 09. 2012 ~ 05. 2017

Teaching assistant and Summer instructor

- Mech. Of Materials Lab.
- Fluid mechanics
- Manuf. Process Lab.
- Thermal dynamics
- Dynamics
- System Dynamics
- Engineering Materials
- Machine Design

RESEARCH INTERESTS

- Dynamic response of materials and structure (Experimental Characterization, modeling, and simulation).
- Polymer composites, structural and interfacial behavior.

- CAD, collaborative engineering design, Virtual reality prototyping, and novel manufacturing process

RESEARCH EXPERIENCE

Washington State University, Pullman, WA 2009 ~ 2017

- Designed and built a high strain rate mechanical testing machine (Split Hopkinson Pressure Bar). Works include computer aided design, manufacturing, experimental design, data acquisition, and system validation.
- Characterized the mechanical properties of a novel polymer nanocomposites (PNC) under static and dynamic loadings.
- Developed the molecular model of the polymer nanocomposites for molecular dynamics simulation and quantified the interfacial strength between carbon nanofillers and polymer matrix.
- Implemented inelastic material models in finite element analysis and investigated the macroscopic deformation and fracture behavior of polyethylene under static and dynamic loadings.
- Used multiscale (meso- to macro-) approach to gain insights on the deformation and fracture mechanisms of PNC structure.

INDUSTRIAL EXPERIENCE

Kunshan Aluminum Co. Ltd. **Shanghai, China**

Stationary Coordinator *02. 2009 ~ 08. 2009*

- Coordinated the production of aluminum foil and maintained a high product passing rate.
- Translated the manuals of imported rolling and grinding machines from English to Chinese for technical professionals.

Nissan-Dongfeng Motor Inc. **Wuhan, China**

Internship *12. 2008 ~ 02. 2009*

- Worked on the design optimization and manufacturing of commercial vehicle diesel engines.

TECHNICAL SKILLS & SOFTWARE

- Solid Mechanics / Materials Characterization
- Computer Aided Design / Manufacturing
- Experimental Design / Data Acquisition & Analysis

- Numerical modeling / Finite Element Modeling / Molecular Dynamics Simu.
- Engineering Software: SolidWorks, Abaqus, ANSYS, Lammps, Materials studio, VMD.
- Programming Language: Python, C/C++.
- Data Acquisition/Analysis Software: LabView, Matlab, OriginPro, Unix Bash.

PUBLICATIONS

- Y. Hu, J. L. Ding and Y. Chen, Effects of Nanofiller Geometries and Interfacial Properties on the Mechanical Performance of Polymer Nanocomposites – A Numerical Study. Polymers and Polymer composites, Accepted 2020
- Y. Hu and J. L. Ding, Effects of Morphologies of Carbon Nanofillers on the Interfacial and Deformation Behavior of Polymer Nanocomposites – A Molecular Dynamics Study. Carbon, 107, 510-524. 2016
- Y. Liu, Y. Hu, T. Liu, J. L. Ding and W. H. Zhong, Mechanical behavior of high density polyethylene and its carbon nanocomposites under quasi-static and dynamic compressive and tensile loadings. Polymer Testing 41, 106-116 , 2015
- Y. Hu, T. Liu, J.L. Ding and W.H. Zhong, Behavior of high density polyethylene and its nanocomposites under static and dynamic compression loadings. Polymer Composites 34 (3), 417-425 , 2013