

Hongzhi Lan

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Education

Ph.D. Candidate, Biomedical Engineering, Tulane University, New Orleans, LA, Present
M.S., Mechanical Engineering, Tulane University, New Orleans, LA, 2007
M.S., Mechanical Engineering, Tsinghua University, Beijing, China, 2002
B.S., Mechanical Engineering, Tsinghua University, Beijing, China, 1999

Awards & Honors

Research Day Poster Presentation Award (2nd Place) – Graduate Division, School of Science and Engineering, Tulane University, 2011
Research Day Poster Session Honorable Mention – Graduate Division, School of Science and Engineering, Tulane University, 2010
IBM Corporation Fellowship in Computational Science, Center for Computational Science, Tulane University, 2009
LONI (Louisiana Optical Network Initiative) Institute Graduate Fellowship, 2009
Outstanding Research Assistant, Dept. of Mechanical Engineering, Tulane University, 2007
Gaotian Excellent Student Scholarship, Dept. of Mechanical Engineering, Tsinghua University, 1998
National First-level Athlete (Mountaineering), China, 1997
Excellent Student Scholarship, Dept. of Mechanical Engineering, Tsinghua University, 1997
Excellent Student Scholarship, Dept. of Mechanical Engineering, Tsinghua University, 1996
Metalworking Technology Practice Award, Tsinghua University, 1996
Excellent Freshman Scholarship, Dept. of Mechanical Engineering, Tsinghua University, 1995

Publications

Hongzhi Lan and Damir B. Khismatullin, A numerical study of the lateral migration and deformation of drops and leukocytes in a rectangular microchannel. *International Journal of Multiphase Flow*, 47: 73-84, 2012

Hongzhi Lan and TA Venkatesh, On the uniqueness and sensitivity issues in determining the elastic and plastic properties of power-law hardening materials through sharp and spherical indentation. *Philosophical Magazine*, 87: 4671-4729, 2007

Hongzhi Lan and TA Venkatesh, Determination of the elastic and plastic properties of materials through instrumented indentation with reduced sensitivity. *Acta Materialia*, 55: 2025-2041, 2007

Hongzhi Lan and TA Venkatesh, On the sensitivity characteristics in the determination of the elastic and plastic properties of materials through multiple indentation. *Journal of Material Research*, 22: 1043-1063, 2007

Hongzhi Lan, Zhigang Lv, Buju Jiang, Shuangjing Yan, Across-platform CAD of Investment Casting Process and Tooling. *Special Casting & Nonferrous Alloy*, 2001(1)

Hongzhi Lan, Zhigang Lv, Shuangjing Yan, Buju Jiang, Analysis on the Applicability of the Calculation Method of Investment Casting Gating System with a Horizontal Runner. *2th International Conference on Special Casting & Nonferrous Alloy*, Shanghai, China, 2001.

Hongzhi Lan, Zhigang Lv, Buju Jiang, Yunzhao Su, Analysis on the Applicability of the Calculation Method of Investment Casting HengJen Method. *Proceedings of 2001 Annual Conference of China Precision Casting*, Penglai, China, 2001.

Professional Experience

2009~Present Research Assistant, Department of Biomedical Engineering, Tulane University, New Orleans, LA. Area of Research: Viscoelastic biofluid simulation, such as leukocyte passive and active migration in blood flow including interaction of multiple leukocytes (using Fortran, C and parallel programming on Linux clusters).

2007~2009 Research Assistant, Department of Biomedical Engineering, Tulane University, New Orleans, LA. Area of Research: Computational analysis on intercellular biotransport in bone matrix and bone adaption under mechanical loading (using MATLAB).

2005~2007 Research Assistant, Department of Mechanical Engineering, Tulane University, New Orleans, LA. Area of Research: Theoretical and computational analysis on nano-indentation and scratch test of alloys and smart materials, such as extraction of mechanical, dielectric and coupling properties (using Abaqus, MATLAB and Java).

2002~2004 Software Engineer, Synnex Corporation (China), Beijing, China. Job Description: Development of Java UI and web application (using Java).

2000~2002 Research Assistant, Department of Mechanical Engineering, Tsinghua University, Beijing, China. Area of research: Process and across-platform CAD of precision casting (using AutoCAD and Java).

1999~2000 Research Assistant, Department of Mechanical Engineering, Tsinghua University, Beijing China. Area of research: Computer aided design of casting (using AutoCAD).

Conference Presentations

Hongzhi Lan and Damir B. Khismatullin, 3-D Numerical Simulation of Lateral Migration and Deformation of Leukocytes in Microfluidic Flow. *2011 BMES Annual Meeting*, Hartford, Connecticut, 2011

Hongzhi Lan and Damir B. Khismatullin, 3-D Numerical Simulation of Lateral Migration of Cells and Deformable Particles in Shear Flow. *2010 BMES Annual Meeting*, Austin, Texas, 2010

Hongzhi Lan and TA Venkatesh, On the Sensitivity and Uniqueness Issues in Determining the Elasto-Plastic Properties of Materials through Indentation: A Comparative Analysis. *2006 TMS Annual Meeting*, San Antonio, Texas, 2006

Abstracts Submitted to Conferences

Hongzhi Lan and Yuefeng Han, Mathematical Modeling of Intercellular Calcium Waves in the Networks of Bone Cells. *2009 ORS Annual Meeting*, Las Vegas, Nevada, 2009

Professional Affiliations

Biomedical Engineering Society (2009-Present)

The Mineral, Metals & Materials Society (2006-2007)