

MO BAI

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EDUCATION

Ph.D. Mechanical Engineering, University of California, Los Angeles, CA

- Aug. 2008 ~ now

M.S. Mechanical Engineering, University of Florida, Gainesville, FL

- Aug. 2005 ~ Dec. 2007
- GPA: 3.95/4.0
- Thesis: Numerical Evaluation of Heat Transfer and Pressure Drop in Open Cell Foams

B.S. Hydraulic Engineering, Tsinghua University, Beijing, China

- Aug. 2001 ~ Jul. 2005
- GPA of junior & senior years: 86.5/100.0
- Thesis: An Automatic Strain and Stress Monitoring System for Hydraulic Structure

PROFESSIONAL EXPERIENCE

Computational Biomechanics Lab., University of California, Los Angeles, CA

Graduate Research Assistant, Aug. 2008 – now

- Numerical simulation of semiflexible cytoskeletal network, using finite element method

Micro-scale Fluid Mechanics and Heat Transfer Lab., University of Florida

Graduate Research Assistant, Dec. 2005 – Dec. 2007

- Developed an analytical model and performed CFD simulation of heat transfer and pressure drop in coolant flowing through metal/carbon micro-open-cell foams
- Performed single- and multi-phase (gas-liquid) simulation of 2-D/3-D micro-channel flow and bubble generation
- Performed experiments on heat transfer and pressure drop measurements of metal foams
- Analyzed and tested a new micro-bubble/droplet dispenser using microscope and CCD camera

Department of Mechanical & Aerospace Engineering, University of Florida

Graduate Teaching Assistant, Dec. 2005 – Dec. 2007

- Assisted and tutored several undergraduate courses, including *Intermediate Engineering Analysis*, *Elementary Thermal Fluid Science*, and *Dynamics*

Fluid Mechanics Laboratory, Tsinghua University

Undergraduate Research Assistant, Aug. 2003 – Jul. 2005

- Designed a complete system to monitor flow rate in pipelines, based on an 8-bit microcontroller AT89C51 including sensor circuits, power supply, and LCD; PCB design & layout using Protel; Designed mechanical enclosure for the system
- Designed an apparatus for hydraulic pressure measurement

PUBLICATIONS AND PRESENTATIONS

- **M. Bai**, J.N. Chung, "Heat Transfer Enhancement in a Cooling Channel with Metal Foam Inserts", *43rd AIAA/ASME/SAE/ASEE Joint Propulsion Conference & Exhibit*, 2007. Cincinnati, OH

- R. Xiong, **M. Bai**, and J.N. Chung, "Formation of Bubbles in a Simple Co-flowing Micro-channel", *Journal of Micromechanics and Microengineering*, 17(2007)1002-1011
- R. Xiong, **M. Bai**, Y.W. Na and J.N. Chung, "Bubble Generation in a Micro-channel with a Barrier", *5th joint ASME/JSME Fluids Engineering Conference, FEDSM 2007*. San Diego, CA. (Cited on-line by Flow Science Inc. http://www.flow3d.com/apps/micro/app_micro_coflow.html)

AWARDS AND MEMBERSHIPS

- Outstanding Academic Accomplishment Award, University of Florida, 2006, 2007
- Zheng Geru Fund's Scholarship for Excellent Studying, Tsinghua University, 2004
- An Honor Prize and Scholarship for Scientific and Technological Contribution, Tsinghua University, 2004
- An Honor Prize and Scholarship for Community Work, Tsinghua University, 2003
- Member of ASME, AIAA, and ISA
- Member of Delta Epsilon Iota

PROFESSIONAL SKILLS

- Computer Languages: Fortran, C/C++, MATLAB
- CAD: Pro/E, AutoCAD, Protel
- CFD: Fluent/Gambit
- Instruments: Olympus BX50 Microscope, Redlake High Speed Motion CCD Camera, Cole-Parmer Syringe Pump