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 University of California, Merced
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Education and Training:

Institution	Major	Degree	Year
University of Science and Technology of China Hefei, China	Fluid mechanics/ thermal science	B.S.	1994
Institute of Mechanics, Chinese Academy of Sciences, Beijing, China	Fluid mechanics/ thermal science	M.S.	1997
University of California, Los Angeles	Fluid mechanics/ thermal science	Ph.D.	2004
University of California, Los Angeles	Microfluidics	Postdoc	2004-2008

Research and Professional Experience:

2009-present	Assistant Professor , School of Engineering, UC Merced Research topics: multi-scale & multi-physics flow and heat transfer modeling and simulations, thermal management, renewable energy, solar desalination, and microfluidic systems.		
2008-2009	Research Scientist , Teledyne Scientific Center, Thousand Oaks Research topics: thermal management for high-power electronics, design of cost-effective desalination system, and numerical and experimental studies of micro-/mini- channel cooling.		
2004-2008	Postdoctoral Researcher , Dept. of Mechanical & Aerospace Engineering, UCLA Research topics: microfluidic systems for biomedical applications, Numerical simulations and experimental validations of micromixers, design and test bacteria concentrator based on membrane filtration, dielectrophoresis, and magnetic separation.		

Publications:

1. **Y. Ma**, A two-parameter nondiffusive heat conduction model for data analysis in pump-probe experiments, *Journal of Applied Physics*, Vol. 116, 243505, 2014.
2. A. Ramu and **Y. Ma**, A Unified Nondiffusive-Diffusive Phonon Transport Model and a Sample Application in Determining the Mean-Free Path of Nondiffusive Phonon Modes, *Journal of Applied Physics*, Vol. 116, 0934501, 2014.
3. M. Chen, L. Jia, Y. Wu, X. Yin, and **Y. Ma**, Bifurcation and Chaos of a Flag in an Inviscid Flow, *Journal of Fluids and Structures*, 2014, Vol. 45, 124-137.
4. **Y. Ma**, A Hybrid Phonon Gas Model for Transient Ballistic-Diffusive Heat Transport, *ASME Journal of Heat Transfer*, Vol. 135, 044501, 2013.
5. **Y. Ma**, A Transient Ballistic-Diffusive Heat Conduction Model for Heat Pulse Propagation in Nonmetallic Crystals. *International Journal of Heat and Mass Transfer*, 2013, Vol. 66, 592-602.
6. Z. Li, G. Hu, Z. Wang, **Y. Ma**, and Z. Zhou, Three dimensional flow structures in a moving droplet on substrate: A dissipative particle dynamics study, *Physics of Fluids*, 2013, Vol. 25, 072103

7. **Y. Ma**, Size-Dependent Thermal Conductivity in Nanosystems Based on Non-Fourier Heat Transfer. *Applied Physics Letters*, 2012, Vol. 101, 211905.
8. **Y. Ma**, C-P Sun, H. A. Haake, B.M. Churchill, and C-M Ho, A high order ADI method for unsteady convection-dominated diffusion problem, *International Journal for Numerical Methods in Fluids*. 2012, Vol. 70, 703-712.
9. X. Wang, X. Zhong,, and **Y. Ma**, Response of a hypersonic boundary layer to wall blowing-suction, *AIAA Journal*, 2011, Vol. 49, No. 7, pp. 1336-1353.
10. **Y. Ma**, A. Bhunia, M. Field and C-L Chen, Microchannel Cooling of Traveling-Wave-Tube Circuit for Ultra-wide-band High-Power Submillimeter-Wave. *IEEE Nanotechnology Council Review on Advances of Micro, Nano, and Molecular Systems*, 463-468, 2010.

Patent

- A Battery Thermal Management System Based on Mini-channel Technology (provisional: 3891 005PRV, formal patent is under review).
- Low-Cost, Ultrahigh-Performance, Air-Cooled Heat Exchangers Based on Enhanced Multiport Aluminum tubes (Provisional patent application is under processing).

Synergistic Activities:

1. Peer reviewer of *Proceedings of the National Academy of Sciences*, *Journal of Renewable and Sustainable Energy*, *Physics Letters A*, *International Journal of Heat and Mass Transfer*, *the Review of Scientific Instruments*, *ASME Journal of Heat Transfer*, *Journal of Fluid Mechanics*, *Physics of Fluids*, *Theoretical and Computational Fluid Dynamics*, *Philosophical Magazine Letters*, *Journal of Aerospace Engineering*, *Microfluidics and Nanofluidics*, *Frontiers in Heat and Mass Transfer*, *ChemPhysChem*, and *Physica Status Solidi B: Basic Solid State Physics*.
2. Session chair of *ASME International Mechanical Engineering Congress & Exposition*, 2011 (Denver), 2012 (Houston), 2013 (San Diego), and 2014 (Montreal)
3. Committee Member: *American Society of Mechanical Engineering (ASME)* (K-8, K-9, and K-20)
4. Professional Society Membership: *ASME* member, *AIAA* member