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Professional Experience

- Assistant Mechanical Engineer, Argonne National Laboratory , June 2006 – present
- Post-Doctoral Researcher, Argonne National Laboratory, June 2002 – June 2006
- Research Assistant, New Jersey Institute of Technology, January 1999 – May 2002
- Lecturer, Beijing Institute of Technology, June 1996 – January 1999
- Research Assistant, Tsinghua University, September 1993 – June 1996

Research Experience

- Fuel Cell and Power Plant Systems
- Hydrogen Storage
- Nuclear/Chemical Waste Processing, Particulate Flow
- Computational Fluid Dynamics (CFD)

Publications

- R. K Ahluwalia and X. Wang “Effect of CO and CO₂ Impurities on Performance of Direct Hydrogen Polymer-Electrolyte Fuel Cells,” *Journal of Power Sources*, in press, 2008.
- R. K Ahluwalia and X. Wang “Fuel Cell Systems for Transportation: Status and Trends,” *Journal of Power Sources*, 177 (2008), 167-176.
- R. K. Ahluwalia and X. Wang, “Buildup of Nitrogen in Direct Hydrogen Polymer-Electrolyte Fuel Cell Stacks,” *Journal of Power Sources*, 17 (2007), 63-71.
- R. K. Ahluwalia and X. Wang, “Rapid Self-Start of Polymer Electrolyte Fuel Cell Stacks from Subfreezing Temperatures,” *Journal of Power Sources*, 162 (2006), 502-512.
- R. K. Ahluwalia, X. Wang and A. Rousseau, “Fuel Economy of Hybrid Fuel Cell Vehicles,” *Journal of Power Sources*, 152 (2005), 233-244.
- R. K. Ahluwalia and X. Wang, “Direct Hydrogen Fuel Cell Systems for Hybrid Vehicles,” *Journal of Power Sources*, 139 (2005), 152-164.
- R. K. Ahluwalia, X. Wang, A. Rousseau, and R. Kumar, “Fuel Economy of Hydrogen Fuel Cell Vehicles,” *Journal of Power Sources*, 130 (2004), 192-201.
- X. Wang, C. Zhu and R. Ahluwalia, “Numerical Simulation of Evaporating Spray Jet in a Concurrent Gas-Solids Pipe Flow,” *Powder Technology*, 140 (2004), 56-67.
- X. Wang and C. Zhu, “Concentric Evaporating Spray Jets in Dilute Gas-Solid Pipe Flows,” *Powder Technology*, 129 (2003), 59-71.
- C. Zhu, G. Liu, X. Wang, and L.-S. Fan, “A Parametric Model for Evaporating Liquid Jets in Gas- Solid Flow”, *International Journal of Multiphase Flow*, 28 (2002), 1479-1495.

- L.-S. Fan, R. Lau, C. Zhu, K. Vuong, W. Warsito, X. Wang, and G. Liu, "Evaporative Liquid Jets in Gas-Liquid-Solid Flow System," *Chemical Engineering Science*, 56 (2001), 5871-5891.
- C. Zhu, X. Wang, G. Liu, and L.-S. Fan, "A Similarity Model of Evaporating Liquid Spray Jets in Concurrent Gas Solid Flows," *Powder Technology*, 119 (2001), 292-297.
- C. Zhu, X. Wang and L.-S. Fan, "Effect of Solids Concentration on Evaporative Liquid Jets in Gas-Solid Flows," *Powder Technology*, 111 (2000), 79-82.
- C. Gao, H. Shi, Z. Yao, X. Wang, and C. Bai, "Numerical Simulation and Dynamic Fracture Criteria of Cylindrical Shells under Inner Explosive Loading," *Tsinghua Science and Technology*, 5 (2000), 13-17.
- X. Wang, Z. Zhu and Z. Wang, "A Numerical Simulation of Meridian Passage Turbulent Flow in Centrifugal Fans", *Chinese Journal of Applied Mechanics*, 15 (1998), 86-90.

Conference Papers and Presentations

- R. K Ahluwalia, X. Wang and R. Kumar, "Fuel Cell Systems for Transportation: Status and Trends," EET-2007 European Ele-Drive Conference, Brussels, Belgium, May 30 – June 01, 2007.
- R. K. Ahluwalia and X. Wang, "Effect of Impurities on Performance of Polymer Electrolyte Fuel Cells," 2006 Fuel Cell Seminar, Honolulu, HI, November 13-17, 2006.
- R. K. Ahluwalia and X. Wang, "Rapid Self-Start of Polymer Electrolyte Fuel Cells from Sub-Freezing Temperatures," 2005 Fuel Cell Seminar, Palm Springs, CA, November 14 – 18, 2005
- R. Ahluwalia, X. Wang and A. Rousseau, "Fuel Economy of Fuel Cell Hybrid Vehicles," 2004 Fuel Cell Seminar, San Antonio, TX, November 1-5, 2004.
- R.K. Ahluwalia, X. Wang and R. Kumar, "Fuel Cell Systems for Hybrid Vehicles," 2004 International PEM Fuel Cell Conference, Hsinchu, Taiwan, October 14-15, 2004.
- X. Wang, R.K. Ahluwalia and D. J. Myers, "Direct H₂ Fuel Cell System with High-Temperature Polymer Membrane," IEA Annex XVI, Southfield, United Kingdom, May 6-7, 2004.
- R. Kumar, R. K. Ahluwalia, X. Wang, and A. Rousseau, "Fuel Economy of Hydrogen Fuel Cell Vehicles," 2003 Fuel Cell Seminar, Miami Beach, FL, November 3-6, 2003
- R. K. Ahluwalia, X. Wang and A. Rousseau, "Direct Hydrogen Fuel Cell Systems for Transportation," Fourth IEA Annex XV Meeting, Palm Springs, CA, November 17 – 18, 2002.
- C. Zhu, X. Wang and G. Liu, "Numerical Simulation of Coaxial Evaporating Spray in Nozzle Region of Circulating Fluidized Reactor," ASME 2002 FED Summer Meeting, Montreal, Quebec, Canada, July 14-18, 2002.
- C. Zhu., G. Liu and X. Wang, "Oblique Evaporating Sprays in Gas-Solid Suspensions," ASME 2002 FED Summer Meeting, Montreal, Quebec, Canada, July 14-18, 2002.
- C. Zhu, X. Wang and G. Liu, "Effect of Particle Loading on Liquid Nitrogen Jet Mixing in a FCC Riser," CFB7: 7th International Conference on Circulating Fluidized Beds, Niagara Falls, Canada, May 5-8, 2002, 881-888.
- L.-S. Fan, R. Lau, C. Zhu, K. Vuong, W. Warsito, X. Wang, and G. Liu, "Evaporative Liquid Jets In Gas-Liquid-Solid Flow System," 5th Gas-Liquid and Gas-Liquid-Solid Reactor Engineering conference, Melbourne, Australia, Sep. 23-27, 2001.

- C. Zhu, G. Liu and X. Wang, "Evaporative Cross-flow Jets in Gas-Solid Suspension Flows," 4th International Conference on Multiphase Flow ICMF'2001, No. 117, New Orleans, LA, May 27-June 1, 2001.
- C. Zhu, X. Wang and G. Liu, "Evaporative Liquid Jets in Concurrent Gas-Solid Pipe Flows," Proceeding of NHTC'00 34th National Heat Transfer Conference, NHTC2000-12143, Pittsburgh, Pennsylvania, August 20-22, 2000.
- X. Wang, G. Liu and C. Zhu, "Experimental Study of Evaporative Liquid Jets in Vertical Gas-solid Pipe Flows," AIChE 2000 Spring National Meeting, Atlanta, GA, March 5-9, 2000.
- C. Zhu, G. Liu and X. Wang, "Heat and Mass Transfer in Ultrasonic Enhanced Membrane Distillation," AIChE 2000 Spring National Meeting, Atlanta, GA, March 5-9, 2000.
- C. Gao, H. Shi, Z. Yao, and X. Wang, "Dynamic Fracture Criteria of Thin Cylindrical Shells Subject to Explosive Loading at High Strain Rate," Strength Theory: Application, Development & Prospect for 21st Century, 945-950, 1998.
- X. Wang, C. Bai and Q. Liu, "A Level-Set Function Approach in Numerical Simulation of Sudden Expansion of an Object in Liquid," Chinese Mechanics Society Annual Meeting, Xian, China, Sept. 20-24, 1997.
- Z. Zhu, X. Wang, X. Bian and Z. Wang, "Numerical Simulation of Passage Flow in Centrifugal Fans," 1st Cross-Strait Symposium on Aeronautics & Astronautics, Tamkang University, Dec.14~15, 1995.
- X. Wang, Z. Wang and Z. Zhu, "A Numerical Simulation of Meridian Passage Turbulent Flow in Centrifugal Fans," Proceedings of 4th Annual Symposium on Environment Fluid Mechanics, Wuxi, China, October 1995.
- X. Wang, T. Wang and Z. Zhu, "An Experimental Study and Numerical Simulation on Sound Field in Reverberation Room with Anti-Sound," Proceedings of 3rd Annual Symposium on Environment Fluid Mechanics, Changdao, China, May 12-15, 1994.
- 24 conference presentations

Professional Society Memberships

American Society of Mechanical Engineering (ASME)

Education

- Ph.D., Mechanical Engineering, New Jersey Institute of Technology, Newark, NJ, 2002
- M.S., Fluid Mechanics, Tsinghua University, Beijing, China, 1996
- B.S., Engineering Mechanics, Tsinghua University, Beijing, China, June 1993