

Xianchang Li, Ph. D.

Associate Professor
Department of Mechanical Engineering
Lamar University
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EDUCATION:

Ph.D. (1999) Mechanical Engineering, Clemson University, Clemson, SC
Dissertation title: Cooling by a Mist/Steam Jet
M.S. (1992) Thermal Engineering, Tsinghua University, China
Thesis title: Turbulent Natural Convection in a 3-D Enclosure with Inner Heater
B.S. (1989) Thermal Engineering, Tsinghua University, China

POSITIONS:

08/2011 Associate Professor, Department of Mechanical Engineering
- present Lamar University, Beaumont, TX
08/2006 Assistant Professor, Department of Mechanical Engineering
- 07/2011 Lamar University, Beaumont, TX
08/2003 Research Scientist, Energy Conversion & Conservation Center
- 07/2006 University of New Orleans, New Orleans, LA
07/2002 Research Associate, Energy Research Center
- 07/2003 Lehigh University, PA

TEACHING EXPERIENCE:

Courses
Offered

Undergraduate level:

- Thermodynamics I (12 times; average class size: ~30)
- Thermodynamics II (10 times; average class size: ~45)
- Fluid Mechanics (10 times; average class size: ~45)
- Turbomachinery (10 times; average class size: ~12)
- Professional Seminar (2 times; average class size: ~18)
- Heat Transfer (1 time; class size: 35)
- Machine Design II (1 time; class size: 30)
- Senior Capstone Design (2 times; 6 students)

Graduate level:

- Gas Turbine Heat Transfer and Cooling (2 times; average class size: ~15)
 - Energy Conservation and Management (4 times; average class size: ~20)
 - Turbomachinery (10 times; average class size: ~40)
 - Numerical Heat Transfer (1 time; class size: 16)
 - Intro to CFD (1 time; class size: 13)
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RESEARCH INTEREST:

- Gas turbine heat transfer and cooling
- Thermal system optimization/emission control
- Computational fluid dynamics (CFD) to simulate the thermal-fluids process
- Emerging technologies for thermal/energy systems
- Application of alternative/renewable energy

RESEARCH PROJECTS:***Funded Projects:***

- 1) Co-PI: "Cybersecurity, Infrastructure and Abnormal Situation Management for the Process Industry," with Dr. Xu and Chen as PI, Lamar Visionary Award, 09/01/2016-08/31/2019, \$150,000.
- 2) Mentor: "RET Site: Incorporating Engineering Design and Manufacturing into High School Curriculum," with W. Zhu as PI, National Science Foundation, 09/01/2016-08/31/2019, \$545,380.
- 3) PI: "Numerical Study of Industrial Flare Efficiency and Emissions with a Focus on the Impact of Steam Injection," Lamar Research Enhancement Grant (REG), 9/1/2015-8/31/2016, \$5000.
- 4) Co-PI: "Modeling and Set-Point Determination for Flare Operations," with D. Chen as PI, Funded by TARC, 09/01/15-7/15/2017, \$50,175.
- 5) PI: "Investigation of the Impact of Blade Cooling on Overall Gas Turbine Performance," Funded by Lamar Research Enhancement Grant, 2014-2015, \$5000.
- 6) Co-PI: "Flare Speciation Study Using Advanced Computational Methods," with H. Lou as PI, Funded by TCEQ, SEP Agreement No. 2009-009, Task 2-A, Phase III, 02/01/14-01/31/15, \$44,000.
- 7) PI: "HEAF Funds to Develop an Ejector Refrigeration System for Teaching and Research," Funded through HEAF2 from Lamar University, 2014-2015, \$12,000.
- 8) Co-PI: "Flare Performance Optimization: DRE/CE vs. Soot," with D. Chen as PI, Funded by Texas Commission of Environmental Quality (TCEQ), 01/01/14-8/31/2014, \$100,000.
- 9) Co-PI: "Emriver EM2 Geomodel for Hydraulic Simulation," with Q. Qian as PI, Funded through HEAF2 from Lamar University, 2013-2014, \$11,000.
- 10) Co-PI: "CFD Study of Important Flare Operating Parameters," with D. Chen as PI, Funded by Texas Air Research Center (TARC), 09/01/13-7/15/2015, \$96,000.
- 11) PI: "Gas Turbine/Steam Turbine Modeling and Optimization," Funded by Entergy Energy Foundation, 2012-2014 (Extended to 2015), \$69,432.
- 12) Co-PI: "CFD Modeling of Industrial Flares under Various Operating and Meteorological Conditions," with D. Chen as PI, Funded TARC, 07/01/12-7/15/2013, \$40,000.
- 13) Co-PI: "Computer Numerical Control (CNC) Milling Machine," with J. Zhou as PI, Funded through HEAF2 by Lamar University, 2011-2012, \$36,588.
- 14) PI: "Infrastructures for Sustainable Energy Systems," Funded through HEAF2 by Lamar University, 2011-2012, \$45,000.
- 15) PI: "Fundamental Study of Aerodynamic Performance of Small-Scale Vertical Axis Wind Turbine with Asymmetric Blades," Funded by Lamar University Research Enhancement Grant, 2011-2012, \$5,000.
- 16) Co-PI: "Flare Speciation and Air Quality Modeling, SEP Part 2-A Flare Speciation Study Using Advanced Computational Methods," with H. Lou as PI, Funded by Texas Commission of Environmental Quality (TCEQ) SEP Program, 01/2011 – 12/2011, \$65,000.
- 17) PI: "Fundamental Study of Aerodynamic Performance of Small-Scale Vertical Axis Wind Turbine with Asymmetric Blades," Lamar University Research Enhancement Grant, 2011-2012, \$5,000.
- 18) PI: "Prototype Design and Development of a Small-Scale Portable Plasma Incinerator for Medical

- Hazardous Waste,” Funded by Texas Hazardous Waste Research Center, 2010-2011, \$5,000.
- 19) PI: “Exploratory Study on Feasible Design of Passive Solar Ventilation with Earth Cooling for Residential and Commercial Buildings,” Funded by Lamar University Research Enhancement Grant, 2010-2011, \$5,000.
 - 20) Co-PI: “CFD Modeling for UT/TCEQ Low BTU & Low Flow Rate Flare Tests,” with D. Chen as PI, Texas Commission on Environmental Quality (TCEQ) Air Quality Research Center, 2010-2011, \$150,000.
 - 21) Co-PI: “Development of Speciated Industrial Flare Emission Inventories for Air Quality Modeling in Texas,” with D. Chen as PI, Funded by Texas Commission on Environmental Quality (TCEQ) Air Quality Research Center, 2010-2011, \$150,000.
 - 22) Co-PI: “Neural Network/Statistical Models for Flare Emissions under various Operating and Meteorological Conditions,” with D. Chen as PI, Funded by Texas Air Research Center (TARC), 2010-2011, \$40,000.
 - 23) PI: “BRIGE: Fundamental Study on Fluid Flow and Heat Transfer of Film Cooling with Backward Injection,” Funded by National Science Foundation, 2009-2011 (Extended to 2013), \$167,451.
 - 24) PI: “Proof-of-Concept Building and Testing of a Small-Scale Portable Plasma Incinerator for Medical Hazardous Waste,” Funded by Texas Hazardous Waste Research Center, 2009-2010, \$10,000.
 - 25) Co-PI: “Neural Network/Statistical Models for Flare Emissions under Various Operating and Meteorological Conditions,” with D. Chen as PI, Funded by Texas Air Research Center (TARC), 2008-2010, \$50,000.
 - 26) PI: “MRI: Acquisition of 2D PIV with GSV for Research Activities in Alternative Energy, Advanced Thermal and Mechanical Systems,” Funded by National Science Foundation, 2008-2011, \$124,000.
 - 27) PI: “Effect of Shape Irregularity of Lunar Dust on its Migration and Control inside Multi-Scale Confined Space,” Funded by Texas Space Grant Consortium, 2008-2010, \$20,000.
 - 28) PI: “Innovative Technologies to Enhance the Performance of Heat Sinks for Electronic Devices,” Funded by Lamar University Research Enhancement Grant, 2008-2009, \$5,000.
 - 29) PI: “Small-scale Portable Plasma Incinerator for Medical Hazardous Waste,” Funded by Texas Hazardous Waste Research Center, 2008-2009, \$5,000.
 - 30) PI: “Applying In-Class Demo Experiments to Enhance Teaching of Fluid Mechanics (MEEN 3311),” Funded by Lamar Instructional Improvement Grant, 2008-2009, \$1,000.
 - 31) Co-PI: “Simulation of Flare Species,” with K. Li as PI, Funded by Texas Commission for Environmental Quality, 2008-2009, \$120,852.
 - 32) Co-PI: “Optimization and Testing of a Portable Biological Wastewater Treatment System for Emergency Relief and Decentralized Deployments,” with J. Lin as PI, Funded by the US Department of Defense, 2008-2010, \$500,244.
 - 33) Co-PI: “System Integration and Optimization of a Novel Deployable Aqueous Aerobic Bioreactor (DAAB) for Wastewater Treatment,” with J. Lin as PI, Funded by the US Department of Defense, 2007-2008, \$568,651.
 - 34) Co-PI: “Study of Innovative Cooling Technologies for Gas Turbine Combustor,” Funded by Lamar University Research Enhancement Grant, 2007-2008, \$5,000.
 - 35) Co-PI: “Improving Calcining Kiln Performance in Energy Efficiency and Emission Reduction,” with T. Wang as PI, Funded by the Louisiana Board of Regents, 2005-2008, \$150,000.
 - 36) Co-PI: “Calcining Kiln Modeling and Analysis to Reduce Natural Gas Consumption and Increase Energy Efficiency,” with T. Wang as PI, Funded by CII Carbon, L.L.C, 2004-2007, \$125,000.
 - 37) PI: “Analysis and Measurement of K.E.P. Connector Flow Rate,” Funded by Global Solve Management Services, LLC, 2004-2005, \$5000.
 - 38) Co-PI: “Assessment for Energy Efficiency Improvements at the Dynegy Natural Gas Processing

Plant at Venice, Louisiana,” with T. Wang as PI, Funded by Dynegy Midstream Services, LLP, , 2004-2005, \$12,000.

PUBLICATIONS:

Peer-Reviewed Journal Papers

- [1] A. Wang, H. Lou, D. Chen, A. Yu, W. Dang, X. Li, C. Martin, V. Damodara, A. Patki, "Combustion mechanism development and CFD simulation for the prediction of soot emission during flaring," *Frontiers of Chemical Science and Engineering*, v. 10, pp 1–13, 2016.
- [2] A. Patki, X. Li, D. Chen, H. Lou, P. Richmond, V. Damodara, L. Liu, K. Rasel, A. Alphones, J. Zhou, "Numerical Simulation of Black Carbon (Soot) Emissions from Non-Premixed Flames," *Journal of Geoscience and Environment Protection*, v. 2, pp. 15-24, 2014.
- [3] K. D. Singh, P. Gangadharan, D. Chen, H. Lou, X. Li, P. Richmond, "Parametric Study of Ethylene Flare Operations and Validation of a Reduced Combustion Mechanism," *Engineering Applications of Computational Fluid Mechanics*, v. 8, pp. 211–228, 2014.
- [4] K. D. Singh, P. Gangadharan, D. Chen, H. Lou, X. Li, P. Richmond, "Computational Fluid Dynamics Modeling of Laboratory Flames and an Industrial Flare", *Journal of the Air & Waste Management Association*, v. 64, pp.1328-1340, 2014.
- [5] S. Gururatana, X. Li, "Heat Transfer Enhancement of Small Scale Heat Sinks using Vibrating Pin Fin," *American Journal of Applied Sciences*, v. 10, pp. 801-809, 2013.
- [6] P. Deshpande and X. Li, "Numerical Study of Giromill-Type Wind Turbines with Symmetrical and Non-symmetrical Airfoils," *European International Journal of Science and Technology*, v. 2, pp.195-208, 2013
- [7] X. Li, G. Subbuswamy, J. Zhou, "Performance of Gas Turbine Film Cooling with Backward Injection," *Energy and Power Engineering*, v. 4B, pp. 132-137, 2013.
- [8] S. Gururatana, X. Li, "Study of a Small Scale Heat Sink with Interrupted and Staggered Elliptic Fins," *Canadian Journal on Mechanical Sciences & Engineering* v. 3, pp. 25-29, 2012.
- [9] Che-Jen Lin, Wei Zhu, X. Li, Xinbin Feng, Jonas Sommar, and Lihai Shang, "Novel Dynamic Flux Chamber for Measuring Air–Surface Exchange of Hg0 from Soils," *Environmental Science & Technology*, v. 46, pp. 8910–8920, 2012.
- [10] H. Lou, D. Chen, C. B. Martin, X. Li, K. Li, H. Vaid, K. D. Singh, P. Gangadharan, "Validation of a Reduced Combustion Mechanism for Light Hydrocarbons", *Clean Technologies and Environmental Policy*, v.14, pp. 1-12, 2012.
- [11] K. D. Singh, T. Dabade, H. Vaid, P. Gangadharan, D. Chen, H. Lou, X. Li, K. Li, and C. B. Martin, "Computational Fluid Dynamics Modeling of Industrial Flares Operated in Stand-By Mode," *Industrial & Engineering Chemistry Research*, v. 51, pp. 12611–12620, 2012.
- [12] H. Lou, D. Chen, C. B. Martin, X. Li, K. Li, H. Vaid, K. D. Singh, and P. Gangadharan, "Optimal Reduction of the C1–C3 Combustion Mechanism for the Simulation of Flaring," *Industrial & Engineering Chemistry Research*, v. 51, pp. 12697–12705, 2012.
- [13] H. Lou, C.B. Martin, D. Chen, X. Li, K. Y. Li, H. Vaid, H. A.T. Kumar, K. D. Singh, D. P. Bean, Jr , "A Reduced Reaction Mechanism for the Simulation in Ethylene Flare Combustion," *Clean Technologies and Environmental Policy*, v. 14, pp. 229-239, 2012
- [14] H. Lou, C.Martin, D. Chen, K. Li, X. Li, H. Vaid, A. Tula, K. Singh, "A Reduced Reaction Mechanism for the Simulation in Ethylene Flare Combustion," *Clean Technologies and Environmental Policy*, online edition, June 16, 2011
- [15] X. Li, T. Wang and Benjamin Day, "Numerical Analysis of the Performance of a Thermal Ejector in a Steam Evaporator," *Applied Thermal Engineering*, v. 30, pp. 2708-2717, 2010.

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- [16] C.S. Eckley, M. Gustin, C.-J. Lin, X. Li, M.B. Miller, "The Influence of Dynamic Chamber Design and Operating Parameters on Calculated Surface-to-air Mercury Fluxes," *Atmospheric Environment* v. 44, pp. 194-203, 2010.
- [17] S. Mao, C. Cheng, X. Li, E. E. Michaelides, "Thermal/structural Analysis of Radiators for Heavy-duty Trucks," *Applied Thermal Engineering*, v. 30, pp. 1438-1446, 2010.
- [18] X. Li, J. Zhou and K. Aung, "On Selection of Reference Temperature of Heat Transfer Coefficient for Complicated Flows," *Heat and Mass Transfer*, v. 45, pp. 633-643, 2009.
- [19] T. Wang, X. Li, "Simulation of Mist Film Cooling at Gas Turbine Operating Conditions," v. 51, *Int. J. Heat Mass Transfer*, pp.5305-5317, 2008.
- [20] X. Li, and T. Wang, "Computational Analysis of Surface Curvature Effect on Mist Film Cooling Performance," *Journal of Heat Transfer*, v. 130, pp. 121901 (10), 2008.
- [21] X. Li, and T. Wang, "Two-phase Flow Simulation of Mist Film Cooling on Turbine Blades," *ASME Journal of Heat Transfer*, v. 130, pp. 102901(8), 2008.
- [22] T. Wang, X. Li, and V. Pinninti "Simulation of Mist Transport for Gas Turbine Inlet Air Cooling," *Numerical Heat Transfer, Part A*, v. 53, pp. 1013-1036, 2008.
- [23] X. Li and T. Wang, "Effect of Various Modeling Schemes on Mist Film Cooling Simulation," *ASME Journal of Heat Transfer*, v. 129, pp. 472-482, 2007.
- [24] X. Li and T. Wang, "Simulation of Film Cooling Enhancement with Mist Injection," *ASME Journal of Heat Transfer*, v. 128, pp. 509-519, 2006.
- [25] T. Wang, J. L. Gaddis, X. Li "Mist/Steam Heat Transfer of Multiple Rows of Impinging Jets," *International Journal of Heat and Mass Transfer*, v. 48, pp. 5179-5192, 2005.
- [26] X. Li, J. L. Gaddis, T. Wang, "Multiple Flow Patterns and Heat Transfer in a Confined Jet," *International Journal of Heat and Fluid Flow*, v. 26, pp. 746-754, 2005.
- [27] C. E. Romero, X. Li, S. Keyvan, and R. Rossow, "Spectrometer-Based Combustion Monitoring for Flame Stoichiometry and Temperature Control," *Applied Thermal Engineering*, v. 25, pp. 659-676, 2005.
- [28] S. Keyvan, R. Rossow, C. E. Romero, and X. Li, "Comparison between Visible and Near IR Flame Spectrum from Natural Gas-Fired Furnace for Blackbody Temperature Measurements," *Fuel*, v. 83, pp. 1175-1181, 2004.
- [29] X. Li, J. L. Gaddis, T. Wang, "Mist/Steam Heat transfer with Jet Impingement onto a Concave Surface," *ASME J. of Heat Transfer*, v.125, pp.438-446, 2003.
- [30] X. Li, J. L. Gaddis, T. Wang, "Mist/Steam Cooling by a Row of Impinging Jets," *Int. J. of Heat Mass Transfer*, v. 46, pp. 2279-2290, 2003.
- [31] X. Li, J. L. Gaddis, T. Wang, "Modeling of Heat Transfer in a Mist/Steam Impinging Jet," *ASME J. of Heat Transfer*, v.123, pp. 1086-1092, 2001.
- [32] X. Li, J. L. Gaddis, T. Wang, "Mist/Steam Heat Transfer of Confined Slot Jet Impingement," *ASME J. of Turbomachinery*, v.123, pp. 161-167, 2001.
- [33] X. Li, and C. F. Ma, "Numerical Study of Recovery Effect and Impingement Heat Transfer with Submerged Circular Jets of Large Prandtl Number Liquid," *Int. J. of Heat Mass Transfer*, v.40, pp. 2647-2653, 1997.
- [34] J. Zhe, H. Sun, X. Li, and C. F. Ma, "Experimental Study on Heat Transfer of Water Jet and Spraying Cooling High Temperature Wall," *J. of Engineering Thermophysics*, v. 18, pp. 629-633, 1997. (In Chinese)
- [35] Z. Ren, D. Zhang, and X. Li, "Natural Convection Flow and Heat Transfer in Enclosure and Open Cavities," *J. of Tsinghua University*, v.32, p23-32, 1992. (In Chinese)
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Peer-Reviewed Conference Proceedings

- [1] A. Patki, X. Li, D. Chen, H. Lou, V. Damodara, "On Numerical Simulation of Fuel Mixed with Steam or Air to Investigate Soot and Other Emissions," ASME 2015 International Mechanical Engineering Congress & Exposition, November 13-19, 2015, Houston, Texas
- [2] M. Besharati-Givi, X. Li, "Impact of Blade Cooling on Gas Turbine Performance under Different Operation Conditions," ASME Power Conference, San Diego, California, June 28-July 2, 2015.
- [3] J. Zhou, H.W. Chu, and X. Li, "Simulation of the Standardized Drop Tests for Handheld Electronics Devices," 2015 International Conference on Mechanical and Electrical Technology (ICEMT 2015), Bali, Indonesia, July 1-3, 2015
- [4] M. Besharati-Givi, X. Li, "Performance Analysis of Fogging Cooled Gas Turbine with Regeneration and Reheat under Different Climatic Conditions," ASME Power Conference, Baltimore, Maryland, July 28-31, 2014.
- [5] M. Besharati-Givi, X. Li, "Parametric Study of Inlet Cooling with Varied COP on Gas Turbine Performance," ASME Power Conference, Baltimore, Maryland, July 28-31, 2014.
- [6] G. Subbuswamy, X. Li, K. Gharat, "Numerical Simulation of Backward Film Cooling with Fan-Shaped Holes," Proceedings of ASME 2013 Summer Heat Transfer Conference, Minneapolis, MN, July 14-19, 2013,
- [7] G. Subbuswamy, X. Li, K. Gharat, "Numerical Study of Aerodynamic Performance of Film Cooling with Backward Injection Holes," Proceedings of ASME 2013 Summer Heat Transfer Conference, Minneapolis, , July 14-19, 2013,
- [8] C. Su, X. Li, "Numerical Study of Solar Chimney for Building Ventilation," Proceedings of the ASME 2012 Summer Heat Transfer Conference, Puerto Rico, July 8-12, 2012.
- [9] S. Shetty, X. Li, and G. Subbuswamy, "Numerical Simulation on Gas Turbine Film Cooling of Curved Surface with Backward Injection," Proceedings of the ASME 2012 Summer Heat Transfer Conference, Puerto Rico, July 8-12, 2012.
- [10] T. Dabade, X. Li, D.I Chen, H. Lou, C. Martin, K. Li, and K. D. Singh, "CFD Simulation of Confined Non-premixed Flames," Proceedings of the ASME 2012 Summer Heat Transfer Conference, Puerto Rico, July 8-12, 2012.
- [11] G. Subbuswamy, X. Li, "Simulation of Backward Film Cooling at Gas Turbine Operating Conditions with and without Mist Injection," ASME Int. Mechanical Engineering Congress & Exposition, Nov. 11-17, 2011, Denver, Colorado.
- [12] X. Li, "Numerical Simulation on Fluid Flow and Heat Transfer of Film Cooling with Backward Injection," Proceedings of 14th International Heat Transfer Conference, Aug. 8-13, Washington DC, 2010.
- [13] S. Gururatana, X. Li, "Performance of a Heat Sink with Interrupted and Staggered Elliptic Fins," Proceedings of 14th International Heat Transfer Conference, Aug. 8-13, Washington DC, 2010.
- [14] G. Subbuswamy, X. Li, "Heat Transfer Enhancement in Heat Sink for Electronic Cooling with Spiral Inserts," Proceedings of 14th International Heat Transfer Conference, Aug. 8-13, Washington DC, 2010.
- [15] S. Gururatana, X. Li, "Numerical Simulation of Heat Sink Performance with Interrupted and Staggered Fins," Proceedings of 2009 ASME Summer Heat Transfer Conference, July 19-22, San Francisco, California, 2009.
- [16] X. Li, T. Wang, and B. Day, "Improving the Performance of a Thermal Compressor in a Steam Evaporator Via CFD Analysis," Proceedings of 2009 ASME International Mechanical Engineering Congress & Exposition, Lake Buena Vista, Florida, November 13-19, 2009.
- [17] S. Rao Para, X. Li, G. Subbuswamy, "Numerical Study of Mist Film Cooling in Combustor at Operating Conditions," Proceedings of 2009 ASME International Mechanical Engineering Congress & Exposition, Lake Buena Vista, Florida, November 13-19, 2009.

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- [18] G. Subbuswamy, X. Li, , “Impinging Jet Cooled Plate Fin Heat Sinks with Turbulators Enhancement,” Proceedings of 2009 ASME International Mechanical Engineering Congress & Exposition, Lake Buena Vista, Florida, November 13-19, 2009.
 - [19] G. Subbuswamy, X. Li, “Numerical Study of film cooling enhancement in gas turbine combustor liner,” ASME Int. Mechanical Engineering Congress & Exposition, Boston, Massachusetts, October 31-November 6, 2008
 - [20] X. Li, P. Corder, “Characteristics of Cooling of the Leading Edge with a Row of Dual Impinging Jets,” ASME Summer Heat Transfer Conf., Jacksonville, Florida, August 10-14, 2008.
 - [21] X. Li, “Conjugate Heat Transfer of Jet Impingement on Short Fins with Different Shapes,” ITHERM 2008, Orlando, FL, May 28-31, 2008
 - [22] X. Fan, K. T., Aung, and X. Li, “Investigation of Thermal Performance of Various Power-device Packages,” Int. Conf. on Thermal, Mechanical and Multi-Physics Simulation and Experiments in Microelectronics and Micro-Systems, EuroSimE, Freiburg im Breisgau, Germany, April 20-23, 2008.
 - [23] X. Li, W. Zhu, and P. Corder, “Numerical Study on Heat Transfer of Inclined Jet Impingement with Explicit Crossflow,” ASME-JSME Thermal Engineering Summer Heat Transfer Conf., Vancouver, July 8-12, 2007.
 - [24] X. Li, J. Zhou and K. Aung, “On Selection of Reference Temperature of Heat Transfer Coefficient for Complicated Flows,” ASME-JSME Thermal Engineering Summer Heat Transfer Conf., Vancouver, Canada, July 8-12, 2007.
 - [25] X. Li, and T. Wang, “Computational Analysis of Surface Curvature Effect on Mist Film Cooling Performance,” ASME Turbo Expo 07.
 - [26] X. Li, and T. Wang, “Two-phase Flow Simulation of Mist Film Cooling with Different Wall Heating Conditions,” 13th International Heat Transfer Conference, Sydney, Australia, 06.
 - [27] T. Wang, X. Li, “Simulation of Mist Film Cooling at Gas Turbine Operating Conditions,” ASME Turbo Expo 2006, Barcelona, Spain, May 8-11, 2006.
 - [28] X. Li, and T. Wang, “Effect of Various Modeling Schemes on Mist Film Cooling Simulation,” ASME International Mechanical Engineering Conference 2005, Orlando, FL, Nov. 5-11, 2005.
 - [29] X. Li and T. Wang, “Simulation of Film Cooling Enhancement with Mist Injection,” ASME Turbo Expo 2005, Nevada, USA, June 6-9, 2005.
 - [30] T. Wang, X. Li, and V. Pinninti “Simulation of Mist Transport for Gas Turbine Inlet Air Cooling,” Proceedings of the ASME International Mechanical Engineering Congress & Exposition, 2004.
 - [31] T. Wang, J. L. Gaddis, X. Li, “Mist/Steam Heat Transfer of Multiple Rows of Impinging Jets,” Proceedings of the ASME Turbo Expo 2004, v.3, pp. 943-950, 2004.
 - [32] X. Li, J. L. Gaddis, T. Wang, “Multiple Flow Patterns and Heat Transfer in a Confined Jet,” Presented at ASME International Mechanical Engineering Congress & Exposition, New Orleans, LA, 2002.
 - [33] X. Li, J. L. Gaddis, T. Wang, “Mist/Steam Heat Transfer with Jet Impingement onto a Concave Surface,” Proceedings of the ASME Turbo Expo 2002, v.3, pp. 877-885, 2002.
 - [34] X. Li, J. L. Gaddis, T. Wang, “Mist/Steam Cooling by a Row of Impinging Jets,” Proceedings of the ASME Turbo Expo 2001, New Orleans, Louisiana, 2001.
 - [35] X. Li, J. L. Gaddis, T. Wang, “Mist/Steam Heat Transfer in Confined Slot Jet Impingement,” Proceedings of the ASME Turbo Expo 2000, Munich, Germany, 2000.
 - [36] X. Li, J. L. Gaddis, T. Wang, “Modeling of Heat Transfer in a Mist/Steam Impinging Jet,” Proceedings of the ASME National Heat Transfer Conference, Pittsburgh, Pennsylvania, 2000.
 - [37] X. Li, and C. F. Ma, “Experimental Research on Recovery Factor of Liquid Circular Jet Impingement,” Proc. of 3rd Int. Symp. on Multiphase Flow & Heat Transfer, Xi'an, China, 1994.
 - [38] Z. Ren, D. Zhang, X. Li, “Turbulent Natural Convection Heat Transfer in Enclosure with an Inner Heater,” Proc. of 3rd Int. Symp. on Heat Transfer, Beijing, 1992.
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Conference Papers on Undergraduate Education

- [1] X. Li, J. Zhou, "Getting Hands-on Experience from Simple Experiments and Model Development in Thermal/Fluid Courses," ASME Int. Mechanical Engineering Congress & Exposition, Nov. 11-17, 2011, Denver, Colorado.
- [2] X. Li, J. Zhou, "Integration of Demo Experiments into Engineering Courses," Proceedings of the Conference on High Education Development 2010, Beijing, China, July 25-26, 2010.
- [3] X. Li, K. Aung and J. Zhou, "Incorporating Simple Classroom Demo Experiments to Enhance Teaching of Fluid Mechanics," ASEE-GSW Annual Meeting, Session FC1, Lake Charles, LA, March 24-26, 2010.
- [4] X. Li, K. Aung, "Two Visual Basic Modules for Teaching Propulsion," Proceedings of the 2009 ASEE Gulf-Southwest Annual Conference, Session TA1-2, Baylor, TX, March 18-20, 2009.
- [5] J. Zhou, K. Aung, X. Li, "Incorporating a Research Project in an Undergraduate Level Engineering Course, Session TA1-3, Baylor, TX, March 18-20, 2009.
- [6] X. Li, K. Aung and J. Zhou, "Teaching Enhancement in Undergraduate Thermodynamics II," ASEE Annual Conference, AC 2008-225, Pittsburgh, PA, June 22-25, 2008.
- [7] K. Aung, J. Zhou and X. Li, "Engineering Mathematics for Mechanical Engineering Students: Bridging the Knowledge Gap," ASEE Annual Conference, AC 2008-772, Pittsburgh, PA, June 22-25, 2008.

Other Conference Publications

- [1] D. Chen, X. Li, H. Lou, P. Richmond, M. Johnson, "CFD and Response Surface Modeling of Flare Performance: DRE/CE vs. Soot," AIChE Annual Meeting, November 16-21, 2014, Atlanta, GA.
- [2] D. Chen, K. D. Singh, P. Gangadharan, X. Li, H. Lou, P. Richmond, "CFD Study of Flare Operating Parameters," AIChE Annual Meeting, November 3-8, 2013, San Francisco, CA.
- [3] H. H. Lou, D. Chen, K-Y Li, X. C. Li, C. Martin, H. Vaid, A. Tula, K. D. Singh, D. J. Bean, "A Reduced Reaction Mechanism for the Simulation of Ethylene Flame," AIChE 2009 Annual Meeting, Nashville, TN, November 8-13, 2009.
- [4] H. H. Lou, D. Chen, K-Y Li, X. C. Li, C. Martin, H. Vaid, A. Tula, K. D. Singh, D. J. Bean, "A Multi-scale Approach for Speciation Study of the Emissions from Flaring," The 5th Sino-US Conference of Chemical Engineering Chemical Engineering for Sustainable Development, Beijing China, Oct. 13-16, 2009.
- [5] H. H. Lou, D. Chen, K-Y Li, X. C. Li, C. Martin, "A Novel Computational Approach for Speciation Study of the Emissions from Flaring," Texas Oil & Gas Association Meeting, Austin, TX, October 29, 2009.
- [6] S. Damera, X. Li, and K. Aung, "Design and Analysis of an Emission Control System for a Portable Plasma Incinerator for Medical Waste Treatment," ASEE-GSW Annual Meeting, Session G6, Lake Charles, LA, March 24-26, 2010.
- [7] P. Kaparathi, J-C Lin, X. Li, S. Gururatana, "Experimental Study on Bubbling Behavior of Aerators in Waste Water Treatment Application" ASEE-GSW Annual Meeting, Session G6, Lake Charles, LA, March 24-26, 2010.
- [8] X. Li, T. Wang, Robert T. Tonti and Les Edwards, "Analysis of Energy Savings by Painting a Rotary Kiln Surface," Proceedings of 29th Industrial Energy Technology Conference (IETC), 2007.
- [9] X. Li, T. Wang and Benjamin Day, "Thermal and Economic Analyses of Energy Saving by Enclosing Gas Turbine Combustor Section," Proceedings of 28th Industrial Energy Technology Conference (IETC), New Orleans, Louisiana, May 10-13, 2006.
- [10] L.S.M. Bento, T. Wang, X. Li, and A. Monge, "Utilization of Infrared Images to Inspect C Massecuite Processing," Sugar Industry Technologists, Inc., Dubai, United Arab Emirates, 2005.

WORKSHOPS:

- Workshop on Writing Better NSF Engineering Education Proposals, Given by Dr. Lance Perez, Program Director, Division of Undergraduate Education, National Science Foundation, Lake Charles, LA, March 24, 2010.
 - Seminar on Process Flare and Burner Operations Seminar, by John Zink Institute, Beaumont, TX, June 18-19, 2009.
 - Workshop on Effective Teaching, ASME National Effective Teaching Institute, Pittsburgh, PA, June 19-21, 2008.
 - Seminar on Compressor Selection, Design, Operation, Maintenance and Systematic Failure Reduction. March 26-27, 2008.
 - ASME Essential Teaching Seminar, San Luis Obispo, CA, September 6-8, 2007.
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PROFESSIONAL AND COMMUNITY SERVICE:

- Panelist of NSF Proposals.
 - Reviewer of DOE Bonneville Power Administration (BPA) Technology Innovation (TI) proposals.
 - Judge at International Sustainable World (Energy, Engineering & Environment) Project Olympiad or I-SWEEP, Houston, Texas.
 - Session co-chair of ASME International Mechanical Engineering Congress and Exposition (2005).
 - Reviewer of books or book proposals:
 - Alternative Energy Systems and Applications
 - Fluid Power Circuits and Controls: Fundamentals and Applications, Second Edition
 - Fluid Mechanics and Thermodynamics of Turbomachinery
 - Turbomachinery: An Introduction
 - Reviewer of a number of journals and conferences:
 - Advances in Mathematical Physics
 - Applied Thermal Engineering
 - ASME journal of Thermal Science and Engineering Applications
 - Engineering Applications of Computational Fluid Mechanics
 - International Journal of Applied Mechanics
 - International Journal of Thermal Sciences
 - Journal of the Energy Institute
 - Journal of Power and Energy
 - Journal of Thermal Science and Engineering Applications
 - ASME International Mechanical Engineering Congress & Exposition (IMECE)
 - ASME National Heat Transfer conference
 - ASME Turbo Expo Conference
 - Judge at Science Fair of Harmony Science Academy, Beaumont, 2009, 2010.
 - Worked with the board of New Westend YMCA (under construction in Beaumont) to integrate renewable energy, mainly solar energy, into the design to save energy and at the same time promote the publicity of renewable energy in Southeast Texas (2008-2009).
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HONORS:

- University Merit Award, Lamar University, 2009.
- Highlighted in "Engineering Research in Texas," 2015.