CURRICULUM VITAE

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EDUCATION

PhD in Mechanical Engineering, Johns Hopkins University (JHU), Baltimore, MD, 2005.

MS in Aerospace Engineering, Beijing University of Aeronautics & Astronautics (BUAA), China, 1997.

BS in Aerospace Engineering, Beijing University of Aeronautics & Astronautics, China, 1994.

PROFESSIONAL EXPERIENCE

Associate Professor, School of Mechanical Engineering, **Purdue University**, 2014.08 ~, West Lafayette, IN 47907.

Assistant Professor, School of Mechanical Engineering, **Purdue University**, 2008.04 ~ 2014.07, West Lafayette, IN 47907.

Postdoctoral Research Associate, Fluid Dynamics and Granular Media Research Team, Condensed Matter and Thermal Physics Group (MPA-10) & Center for Nonlinear Study (CNLS), **Los Alamos National Laboratory,** 2005.07~ 2008.03, Los Alamos, NM 87545.

Postdoctoral Fellow, **Laboratory of Experimental Fluid Dynamics,** Department of Mechanical Engineering, JHU, 2005.01~ 2005.07, Baltimore, MD 21218.

Research Assistant, **Laboratory of Experimental Fluid Dynamics**, Department of Mechanical Engineering, JHU, 1997~2004, Baltimore, MD 21218.

Research Assistant, **Institute of Fluid Mechanics**, BUAA, 1994~1997, Beijing, China.

RESEARCH INTERESTS

1. ***Advanced Flow Diagnostic Techniques***
2. ***Benchmark Experiments and Modeling***
   - Unsteady flow measurements and analysis
   - Turbulence modeling and CFD validation
3. ***Applied Fluid Dynamics***
   - Renewable energy: wind, hydrokinetic power, marine hydrokinetic energy
   - Stratified flows
   - Fluid dynamics of home appliance
   - Low Mach number aeroacoustics

TEACHING EXPERIENCE

Introduction to Mechanical Engineering Design, Innovation and Entrepreneurship, ME263 (Lab Session), Purdue University.

Introduction to Fluid Mechanics, ME309, Purdue University.

Global Design Team, GEP300/400, Global Engineering Program, Purdue University.

Mechanical Engineering Senior Design, ME463, Purdue University.

Undergraduate Independent Study, ME497/ME498

Intermediate Fluid Mechanics, ME509, Purdue University.

Fundamental of Wind Energy, ME514, Purdue University.

Graduate Independent Study, ME597, Purdue University.

Introduction to Experimental Fluid Dynamics, ME597e, Purdue University.

Engineering Optics, ME58700, Purdue University.

Boundary Layer Theory, ME61000, Purdue University.

Principle of Turbulence, ME61100, Purdue University.

JOURNAL PUBLICATIONS[1]

47. Shang, W. and **Chen, J.***, A Partial Coherent Interferometry for measuring the thickness of a dynamic liquid sheet, ***International Journal of Multiphase Flow***, 116 (2019): 15-25.
46. Yao, L., Wu, C., Wu, Y., Chen, L., **Chen, J.***, Wu, X.*, and Cen, K., Investigating particle and volatile evolution during pulverized coal combustion using high-speed digital in-line holography, ***Proceedings of the Combustion Institute*** 37, 3 (2019), 2911 - 2918.
45. Wu, X., Yao, L., Wu, Y. *, Lin, X., Chen, L., **Chen, J.***, Gao, X., and Cen, K., In-situ Characterization of coal particle combustion via long working distance digital in-line holography, ***Energy & Fuels*** 32, 8 (2018), 8277–8286.
44. Powell, M. S., Gunduz, I. W., Shang, W., **Chen, J.**, Son, S. F., Chen, Y., and Guildenbecher, D. R.* Agglomerate sizing in aluminized propellants using digital inline holography and traditional diagnostics, ***Journal of Propulsion and Power*** (2018), 1–13.
43. Rodrigues, N. S., Kulkarni, V., Gao, J., **Chen, J.**, and Sojka, P. E.*, Spray formation and atomization characteristics of non-Newtonian impinging jets at high Carreau numbers, ***International Journal of Multiphase Flow*** 106 (2018), 280 – 295.
42. Yao, L., **Chen, J.***, Sojka, E. S., Wu, X., and Cen K., Three-dimensional dynamic measurement of irregular stringy object using digital holography, ***Optics Letters*** 43, 6 (Mar 2018), 1283–128.
41. Katinas, C., Shang, W., Shin, Y. * and **Chen, J.**, Modeling Particle Spray and Capture Efficiency for Direct Laser Deposition Using a Four Nozzle Powder Injection System, ***ASME Journal of Manufacturing Science and Engineering*** 140 (2018), 041014–1 – 041014–10.
40. Adams, Z., and **Chen, J.***, Optimization and Validation of Cycloturbine Blade Pitching Kinematics via Fluxline Theory, ***AIAA Journal*** 56, 5 (2018), 1894–1909.
39. Adams, Z., and **Chen, J.** *, Flux-line theory: A novel analytical model for cycloturbines, ***AIAA Journal*** 55, 11 (2017), 3851–3867.
38. Guildenbecher, D. R. *, Gao, J., **Chen, J.** and Sojka, P. E., Characterization of drop aerodynamic fragmentation in the bag and sheet-thinning regimes by crossed-beam, two-view, digital in-line holography, ***International Journal of Multiphase Flow***, 94 (2017), 107-122.

[1] Underlined authors are students under Dr. Chen's direct supervision. Asterisk indicates the corresponding author.

37. You, R., **Chen, J.**, Lin, C.-H., Wei, D., and Chen, Q.*, Investigating the impact of gaspers on cabin air quality in commercial airliners with a hybrid turbulence model, ***Building and Environment*** 111 (2017), 110 – 122.
36. You, R., **Chen, J.**, Shi, Z., Liu, W., Lin, C.-H., Wei, D., and Chen, Q.*, Experimental and numerical study of airflow distribution in an aircraft cabin mock-up with a gasper on, ***Journal of Building Performance Simulation*** 9, 5 (2016), 555–566.
35. Shi, Z., **Chen, J.**, You, R., Chen, C., and Chen, Q.*, Modeling of gasper-induced jet flow and its impact on cabin air quality, ***Energy and Building*** 127 (2016), 700 – 713.
34. Xu, D., and **Chen, J.***, On the mixing models for stratified flows subjected to concomitant stable and unstable stratifications, ***Journal of Turbulence*** 17, 12 (2016), 1087–1111.
33. Xu, D., and **Chen, J.***, Subgrid-scale dynamics and model test in a turbulent stratified jet with coexistence of stable and unstable stratification, ***Journal of Turbulence*** 17, 5 (2016), 443–470.
32. Shi, Z., **Chen, J.***, Chen, Q., On the turbulence models and turbulent Schmidt number in simulating stratified flows, ***Journal of Building Performance Simulation***, 2015, DOI: 10.1080/19401493. 2015.1004109.
31. Rodrigues, N., Kulkarni, V., Gao, J., **Chen, J.** and Sojka, P.*, An experimental and theoretical investigation of spray characteristics of impinging jets in impact wave regime, ***Experiments in Fluids***, 56:60 (2015).
30. Zhou, N., **Chen, J.***, Adams, D., and Fleeter, S., Influence of inflow conditions on turbine loading and wake structures predicted by direct large eddy simulations, ***Wind Energy***, 2015, DOI: 10.1002/we.1866.
29. Iliff, B., Kerlo, A., **Chen, J.**, Rodefeld, M., and Goergen, C.*, In Vitro Ultrasound Measurements of Powered and Unpowered Total Cavopulmonary Connection, ***Austin Journal of Biomedical Engineering***, 1(6):5, 2014.
28. Giridharan, G. A., Ising, M., Sobieski, M. A., Koenig, S. C., **Chen, J.**, Frankel, S., and Rodefeld, M. D., Cavopulmonary assist for the failing Fontan circulation: Impact of ventricular function on mechanical support strategy, ***ASAIO Journal***, 60(6), 2014.
27. Gao, J., Guildenbecher, D. R., Engvall, L., Reu, P. L. and **Chen, J.***, Refinement of Particle Detection by the Hybrid Method in Digital In-line Holography, ***Applied Optics***, 53, 27 (2014), 130-138.
26. Xu, J., Gao, J., Qiao, L.*, and **Chen, J.**, Droplet breakup of micro- and nano-dispersed carbon-in-water colloidal suspensions under intense radiation, ***International Journal of Heat and Mass Transfer***, 78 (2014), 267-276.
25. Odier, P.*, **Chen, J**., and Ecke, R., Entrainment and mixing in a laboratory model of oceanic over flow, ***Journal of Fluid Mechanics,*** 746 (2014), 498-535.
24. Guildenbecher, D. R.*, Engvall, L., Gao, J., Grasser, T. W., Reu, P. L. and **Chen, J.**, Digital In-line Holography to Quantify Secondary Droplets from the Impact of A Single Drop on A Thin Film, ***Experiments in Fluids***, 55 (2014), article #1670.
23. Gao, J., Guildenbecher, D. R., Reu, P. L., and **Chen, J.***, Uncertainty characterization of particle depth measurement using digital in-line holography and the hybrid method, ***Optics Express***, 21, 22 (2013), 26432–26449.
22. Kerlo, A., Delorme, Y., Xu, D., Frankel, F., Giridharan, G., Rodefeld, M., and **Chen, J**.*, Experimental Study of Powered Fontan Hemodynamics in Idealized Total Cavopulmonary Connection Model, ***Experiments in Fluids*** 54 (2013), article # 1581.
21. Gao, J., Guildenbecher, D. R., Reu, P. L., Kulkarni, V., Sojka, P. E., and **Chen, J.***, Quantitative, 3D diagnostics of multiphase drop fragmentation via digital in-line holography, ***Optics Letters*** 38, 11 (2013), 1893-1895.

20. Guildenbecher, D. R.*, Gao, J., Reu, P. L., and **Chen, J.**, Digital holography simulations and experiments to quantify the accuracy of 3D particle location and 2D sizing using a proposed hybrid method, ***Applied Optics*** 52 (2013), 3790-3801.
19. Xu, D., and **Chen, J.***, Experimental test of revised similarity hypotheses without Taylor's Hypothesis, ***Physics Review E*** 87 (Jan 2013), 013018.
18. Xu, D., and **Chen, J.***, Accurate estimate of turbulent dissipation rate using PIV data, ***Experimental Thermal and Fluid Science*** 44 (2013), 662–672.
17. Delorme, Y., Anupindi, K., Kerlo, A., Shetty, D., Rodefeld, M., **Chen, J.**, and Frankel, S.*, Large eddy simulation of powered Fontan hemodynamics, ***Journal of Biomechanics*** 46, 2 (2013), 408 – 422.
16. Giridharan, G., Koenig, S., Sobieski, M., Kennington, J., **Chen, J.**, Frankel, S., and Rodefeld, M.*, Performance Evaluation of a Pediatric Viscous Impeller Pump for Fontan Cavopulmonary Assist, ***Journal of Thoracic and Cardiovascular Surgery*** 145, 1 (2013), 249-257.
15. Gao, J., Lyon, J. A., Szeto, D. P., and **Chen, J.***, *In Vivo* imaging and quantitative analysis of zebrafish embryos by digital holographic microscopy, ***Biomedical Optical Express*** 3, 10 (Oct 2012), 2623–2635.
14. Xu, D., and **Chen, J.***, Experimental study of stratified jet by simultaneous measurements of velocity and density fields, ***Experiments in Fluids*** 53 (2012), 145–162.
13. Flock, A., Guildenbecher, D. R.*, **Chen, J.**, Sojka, P., and Bauer, H.-J., Experimental statistics of droplet trajectory and air flow during aerodynamic fragmentation of liquid drops, ***International Journal of Multiphase Flow*** 47 (2012), 37–49.
12. Wang, Y., Lee, H. C., Li, K. M., Gu, Z., and **Chen, J.***, Experimental and numerical study of flow over a cavity for reduction of buffeting noise, ***Acta Acustica united with Acustica*** 98, 4 (2012), 600–610.
11. Odier, P., **Chen, J**., and Ecke, R.*, Understanding and Modeling Turbulent Fluxes and Entrainment in a Gravity Current, ***Physica D: Nonlinear Phenomena,*** 241, 3 (2012), 260-268.
10. Wang, Y., Gu, Z., and **Chen, J.***, Numerical Simulations of Noise Induced by Flow in HVAC Ventilation Ducts, ***SAE International Journal of Materials and Manufacturing***, 4 (2011), 696-707.
9. Connell, S., Gao, J., **Chen, J.**, and Shi, R.*, Novel Model to Investigate Blast Injury in the Central Nervous System, ***Journal of Neurotrauma***, 28 (2011), 1229-1236.
8. Kennington, J., Frankel, S., **Chen, J.**, Koenig, S., Sobieski, G., Giridharan, G., and Rodefeld, M.*, Design Optimization and Performance Studies of an Adult Scale Viscous Impeller Pump for Powered Fontan in an Idealized Total Cavopulmonary Connection, ***Cardiovascular Engineering and Technology,*** 2 (2011), 237-243.
7. Rodefeld, M.*, Coats, B., Fisher, T., Giridharan, G., **Chen, J.**, Brown, J., and Frankel, S., Cavopulmonary assist for the univentricular Fontan circulation: von Karman viscous impeller pump, ***Journal of Thoracic and Cardiovascular Surgery***, 140, 3 (2010), 529–537***.***
6. Odier, P., **Chen, J**., Rivera, M., and Ecke, R.*, Mixing in stratified gravity currents: Prandtl mixing length, ***Physics Review Letter***, 102 (2009), 134504.
5. **Chen, J.**, Meneveau, C., and Katz, J. *, Scale Interactions of Turbulence Subjected to a Straining-Relaxation-Destraining Cycle, ***Journal of Fluid Mechanics***, 562 (2006), 123–150.
4. **Chen, J.** and Katz, J.*, Elimination of peak-locking error in PIV analysis using the correlation mapping method, ***Measurement Science and Technology***, 16 (2005), 1605-1618 (***Recipient of Outstanding Fluid Mechanics Paper Award 2005***).

3. **Chen, J.**, Katz, J., and Meneveau, C.*, The implication of mismatch between stress and strain-rate in turbulence subjected to rapid straining and destraining on dynamic LES models, ***Journal of Fluids Engineering***, 127, 5 (2005), 840-850.
2. Shen, Z-G.*, Zhao, X-H., **Chen, J.**, Wang, Z-T., Xing, Y-S., and Ma, S-L., Ground-based atomic oxygen effects simulation facility with the filament discharge and bound of magnetic field, ***ACTA Aero. ET Astro. Sinica,*** 21 (2000), 425-430.
1. Shen, Z-G.*, Xing, Y-S., **Chen, J.**, Liu, C-H, Wu, C., and Yang, S., Fast electromagnetic gas valve, ***Measurement Science & Technology***, 6 (1995), 324-328.

CONFERENCE PUBLICATIONS

59. Wang, Y., **Chen, J.**, Zhang, Y., and Kim, K-H., Measurements of Morphology and Locomotion of Caenorhabditis Elegans with Digital Holographic Microscopy, ***Proceedings of The ASME 2020 Fluids Engineering Division Summer Meeting***, July 12 - 16, 2020, Orlando, Florida, USA.
58. Wu, P., **Chen, J.**, Sojka, P., Li, Y., and Cao, H., Characterization of Oil Droplets in the Lower Cavity of a Rotary Compressor, ***Proceedings of The ASME 2020 Fluids Engineering Division Summer Meeting***, July 12 - 16, 2020, Orlando, Florida, USA.
57. Li, A., **Chen, J.**, Liu, Y., Bolton, S., and Davies, P., Noise Source Identification and Noise Directivity Analysis of Bladeless Fans by Combined CFD and CAA Method, ***Proceedings of The ASME 2020 Fluids Engineering Division Summer Meeting***, July 12 - 16, 2020, Orlando, Florida, USA.
56. Ling, Y., Shang, W., and **Chen, J.**, Detailed numerical simulation of two impinging jets with moderate injection velocities, ***Proceedings of the ASME-JSME-KSME 2019 8th Joint Fluids Engineering Conference***, July 28-August 1, 2019, San Francisco, CA, USA.
55. Wang, Y. and **Chen, J.,** Measurements of dimension and morphology of solid particles volume with digital in-line holography, ***Proceedings of the ASME-JSME-KSME 2019 8th Joint Fluids Engineering Conference***, July 28-August 1, 2019, San Francisco, CA, USA.
54. Shang, W. and **Chen, J.**, The dynamic measurement of impinging sheet thickness via partial coherent interferometry, ***Proceedings of the ASME-JSME-KSME 2019 8th Joint Fluids Engineering Conference***, July 28-August 1, 2019, San Francisco, CA, USA.
53. Xu, J. and **Chen, J.**, Characterization of the anisotropic wetting property in liquid transportation on the surface with ratchet structures, ***Proceedings of the ASME-JSME-KSME 2019 8th Joint Fluids Engineering Conference***, July 28-August 1, 2019, San Francisco, CA, USA.
52. Li, A., **Chen, J.**, Liu, Y., Bolton, S., and Davies, P., Influence of geometric parameters on aerodynamic and acoustic performances of bladeless fans, ***Proceedings of the ASME-JSME-KSME 2019 8th Joint Fluids Engineering Conference***, July 28-August 1, 2019, San Francisco, CA, USA.
51. Wu, P., **Chen, J.**, and Sojka, P. E., Visualization of oil droplets distribution in a rotary compressor. In Fluids Engineering Division Summer Meeting, ***Proceedings of the ASME-JSME-KSME 2019 8th Joint Fluids Engineering Conference***, July 28-August 1, 2019, San Francisco, CA, USA.
50. Obenauf, D. G., Yao, L., Shang, W., Sojka, P. E., and **Chen, J.**, Effect of reduced surface tension on size and velocity distributions of ethanol-water drop fragments formed via multi-mode and sheet-thinning breakup, **AIAA Propulsion and Energy 2019 Forum**, August 19-22, 2019, Indianapolis, IN, USA.
49. Shang, W. and **Chen, J.**, Dynamic Measurement of Liquid Sheet Formed by Impinging Jets via Partial Coherent Interferometry, ***Proceedings of ASME 5th Joint US-European Fluids Engineering Summer Conference***, July 15-20, 2018, Montreal, Quebec, Canada.

48. Yao, L., **Chen, J.**, Sojka, P., and Wu, X., Quantifying the Spatial-Temporal Evolution of Rim/Ligament in Drop Breakup Via Digital In-Line Holography, ***Proceedings of ASME 5th Joint US-European Fluids Engineering Summer Conference***, July 15-20, 2018, Montreal, Quebec, Canada.
47. Yao, L., **Chen, J.**, Sojka, P., and Wu, X., Characterization of the Bag Breakup of Liquid Drop Using High-Speed Digital In-Line Holography, ***Proceedings of ASME 5th Joint US-European Fluids Engineering Summer Conference***, July 15-20, 2018, Montreal, Quebec, Canada.
46. Gutman, B., Yao, L., Shang, W., **Chen, J.**, and Sojka, P. E., Size-velocity Pdfs for Impinging Jet Atomizer-produced Sprays, ***14th Triennial International Conference on Liquid Atomization and Spray Systems***, Chicago, IL, USA, July 22-26, 2018.
45. Obenauf, D., Yao, L., Shang, W., **Chen, J.**, Sojka, P. E., and Guildenbecher, D., Size-velocity Pdfs for Drop Fragments Formed via Sheet-thinning Breakup, ***14th Triennial International Conference on Liquid Atomization and Spray Systems***, Chicago, IL, USA, July 22-26, 2018.
44. Sondgeroth, G., Yao, L., Shang, W., **Chen, J.**, Sojka, P. E., and Guildenbecher, D., Size-velocity Pdfs for Drop Fragments Formed via Multiple Breakup, ***14th Triennial International Conference on Liquid Atomization and Spray Systems***, Chicago, IL, USA, July 22-26, 2018.
43. White, C., Sondgeroth, G., Shang, W., Yao, L., **Chen, J.**, Sojka, P. E., and Guildenbecher, D., Size-velocity Pdfs for Drop Fragments Formed via Bag Breakup, ***14th Triennial International Conference on Liquid Atomization and Spray Systems***, Chicago, IL, USA, July 22-26, 2018.
42. Yao, L., **Chen, J.**, Sojka, P. E., and Wu, X., Spatial-temporal characterization of multi-branch ligament in drop breakup using high-speed digital in-line holography, ***14th Triennial International Conference on Liquid Atomization and Spray Systems***, Chicago, IL, USA, July 22-26, 2018.
41. Shang, W. and **Chen, J.**, Dynamics and Structures of Impinging Sheet, ***14th Triennial International Conference on Liquid Atomization and Spray Systems***, Chicago, IL, USA, July 22-26, 2018.
40. Wu, P., Shang, W., and **Chen, J.***, Experimental Characterization of Flow Field Around Heat Exchanger Cells in a Residential Gas Furnace, ***17th International Refrigeration and Air Conditioning Conference at Purdue***, July 9-12, 2018.
39. Katinas, C., Shang, W., Shin, Y.* and **Chen, J.**, Modeling Particle Spray and Capture Efficiency for Direct Laser Deposition Using a Four Nozzle Powder Injection System, ***ASME 2017 12th International Manufacturing Science and Engineering Conference collocated with the JSME/ASME 2017 6th International Conference on Materials and Processing,*** Volume 2: Additive Manufacturing; Materials, Los Angeles, California, USA, June 4–8, 2017.
38. Shang, W. and **Chen, J.**, Impinging Sheet Thickness Measurement using Partial Coherent Interferometry, ***29th Annual Conference on Liquid Atomization and Spray Systems***, Atlanta, GA, May 2017.
37. Yao, L., **Chen, J.**, Sojka, P. E., and Guildenbecher, D., Fragment pdf(d)s for drops impacting a thin liquid surface, ***29th Annual Conference on Liquid Atomization and Spray Systems***, Atlanta, GA, May 2017.
36. White, C., Sondgeroth, G., Shang, W., Yao, L., **Chen, J.**, Sojka, P. E., and Guildenbecher, D., Size-velocity pdfs for Drop Fragments Formed via Bag Breakup, ***29th Annual Conference on Liquid Atomization and Spray Systems***, Atlanta, GA, May 2017.
35. Sondgeroth, G., White, C., Shang, W., Yao, L., **Chen, J.**, Sojka, P. E., and Guildenbecher, D., Size-velocity pdfs for Drop Fragments Formed via Multi-mode Breakup, ***29th Annual Conference on Liquid Atomization and Spray Systems***, Atlanta, GA, May 2017.
34. Rodrigues, N. S., Gao, J., **Chen, J.**, and Sojka, P. E., Spray Characterization of non-Newtonian Impinging Jets Using Digital In-Line Holography, ***28th Annual Conference on Liquid Atomization and Spray Systems***, Dearborn, MI, May 2016.

33. You, R., Liu, W., **Chen, J.**, Lin, C.-H., Wei, D., and Chen, Q., Modelling air distribution in aircraft cabins with a simplified gasper model, ***Proceedings of the 14th International Conference on Indoor Air Quality and Climate (Indoor Air 2016)***, Ghent, Belgium.
32. Gao, J., Guildenbecher, D. R., Gabet-Hoffmeister, K. N., **Chen, J.**, and Sojka, P. E., Characterization of drop aerodynamic fragmentation in the bag and shear thinning regimes by crossed-beam two-view digital in-line holography, ***27th Annual Conference on Liquid Atomization and Spray Systems***, Raleigh, NC, May 2015.
31. Rodrigues, N. S., Gao, J., **Chen, J.**, and Sojka, P. E., An experimental investigation of the primary atomization of viscoelastic impinging jets, ***ASME 2015 International Mechanical Engineering Congress & Exposition,*** Houston, TX, 2015.
30. You, R., **Chen, J.**, Shi, Z., Liu, W., Lin, C.-H., and Chen, Q., Experimental and numerical study of gasper-induced airflow in an aircraft cabin mockup, ***Proceedings of the 9th International Symposium on Heating, Ventilating and Air-Conditioning (ISHVAC) and the 3rd International Conference on Building Energy and Environment (COBEE)***, Tianjin, China. Paper No. T6-747, 2015.
29. Shi, Z., Dai, S., **Chen, J.**, and Chen, Q., Numerical study of gasper-induced jet flow with detailed gasper geometry, ***Proceedings of the 9th International Symposium on Heating, Ventilating and Air-Conditioning (ISHVAC) and the 3rd International Conference on Building Energy and Environment (COBEE)***, Tianjin, China. Paper No. T6-573. 2015.
28. Shi, Z., **Chen, J.**, and Chen, Q., Numerical study of flow characteristics and entrainment of stratified jet flows in enclosed environment, ***Proceedings of the 13th International Conference on Air Distribution in Rooms (ROOMVENT 2014)***, Sao Paulo, Brazil, 2014.
27. Guildenbecher, D. R., Reu, P. L., Nemer, M., Gao, J., and **Chen, J.**, Experimental methods to quantify particle positional and displacement uncertainty along the depth direction in digital in-line holography, ***52nd Aerospace Sciences Meeting***, January 2014.
26. Gao, J., Guildenbecher, D. R., Reu, P. L., and **Chen, J.**, Characterization of aerodynamic fragmentation of a drop by cross-beam two-view digital in-line holography, ***26th Annual Conference on Liquid Atomization and Spray Systems***, Portland, OR, May, 2014.
25. Duo, X. and **Chen, J.**, Characterization of mixing efficiency and entrainment in a turbulent stratified jet, ***Proceedings of ASME 2014 4th Joint US-European Fluids Engineering Division Summer Meeting***, August 3-7, 2014, Chicago, Illinois, USA
24. Gao, X., Zhou, N., and **Chen, J.**, Numerical simulation of rotor-tower wake interaction in wind farm, ***Proceedings of ASME 2014 4th Joint US-European Fluids Engineering Division Summer Meeting***, August 3-7, 2014, Chicago, Illinois, USA
23. Zhou, N., Gao, X., and **Chen, J.**, Prediction of aerodynamic loadings and power production of wind turbines in wake by numerical simulation, ***Proceedings of ASME 2014 4th Joint US-European Fluids Engineering Division Summer Meeting***, August 3-7, 2014, Chicago, Illinois, USA
22. Gao, J., Rodrigues, N. S., Sojka, P. E., and **Chen, J.**, Measurement of aerodynamic breakup of non-Newtonian drops by digital in-line holography, ***Proceedings of ASME 2014 4th Joint US-European Fluids Engineering Division Summer Meeting***, August 3-7, 2014, Chicago, Illinois, USA
21. Xu, D. and **Chen, J.**, Experimental study of sub-grid scale physics in stratified flows, ***Proceedings of ASME 2013 Fluids Engineering Summer***, Incline Village, Neveda, July 7-11, 2013.
20. Gao, J., **Chen, J.**, Guildenbecher, D. R., and Reu, P. L., Uncertainty quantification of the hybrid method for particle field measurement using digital in-line holography, ***Proceedings of ASME 2013 Fluids Engineering Summer***, Incline Village, Neveda, July 7-11, 2013.

19. Gao, J., Guildenbecher, D. R., Reu, P. L., and **Chen, J.**, Characterization of secondary drops using digital in-line holography, ***25th Annual Conference on Liquid Atomization and Spray Systems***, Pittsburgh, PA, May 5-8, 2013.
18. Guildenbecher, D. R., Reu, P. L., Gao, J., and **Chen, J.**, Experimental methods to quantify the accuracy of 3D particle field measurements via digital holography, ***Digital Holography and Three-Dimensional Imaging Congress***, Kohala Coast, Hawaii, April 21-25, 2013.
17. Guildenbecher, D. R., Gao, J., Reu, P. L., and **Chen, J**., Digital holography reconstruction algorithms to estimate the morphology and depth of non-spherical, absorbing particles, ***Proceedings of SPIE Optics and Photonics*** (2012).
16. Kerlo, A., Kennington, J., Xu, D., Frankel, F., Giridharan, G., Rodefeld, M., and **Chen, J**., Experimental Study of Powered Fontan Hemodynamics in Idealized Total Cavopulmonary Connection Model, ***11th International Conference on Fluid Control, Measurements and Visualization***, Keelung, Taiwan, December 5-9, 2011.
15. Flock, A., Guildenbecher, D., **Chen, J.**, Sojka, P., and Bauer, H-J, Wake Dynamics During Aerodynamic Fragmentation of Liquid Drops, ***24th European Conference on Liquid Atomization and Spray Systems***, Estoril, Portugal, September 2011.
14. Odier, P., **Chen, J.**, and Ecke, R., Turbulent Characteristics of Gravity Currents, ***7th International Symposium on Stratified Flows***, Rome, Itlay, August 22-26, 2011.
13. Wang, Y., Gu, Z., and **Chen, J.**, Numerical Simulations of Noise Induced by Flow in HVAC Ventilation Ducts, ***Proceedings of 2011 SAE World Congress,*** Detroit, MI, April 12-14, 2011.
12. Xu, D. and **Chen, J.**, Experimental study of structure and dynamics of turbulent stratified jet, ***Proceedings of ASME 2010 3rd Joint US-European Fluids Engineering Summer Meeting and 8th International Conference on Nanochannels, Microchannels, and Minichannels***, Montreal, Canada, August 2-4, 2010.
11. Gao, J., Connell, S., Shi, R. and **Chen, J.**, Blast-induced neurotrauma: characterizing the blast wave impact and tissue deformation, ***Proceedings of ASME 2010 3rd Joint US-European Fluids Engineering Summer Meeting and 8th International Conference on Nanochannels, Microchannels, and Minichannels***, Montreal, Canada, August 2-4, 2010.
10. Odier, P., **Chen, J.**, Rivera, M. and Ecke, R., Mixing Lengths Scaling in a Gravity Flow, ***Euromech Colloquium 512: Small scale Turbulence and Related Gradient Statistics***, Torino, Italy, October 26-29, 2009.
9. Coats, B., Xu, D., **Chen, J.**, Frankel, S., and Rodefeld, M., Design of a cavopulmonary assist device using a viscous centrifugal blood pump – a CFD and PIV study, ***Proceedings of The Third International Symposium on Physics of Fluids,*** Jiuzhaigou, China, June 15-18, 2009.
8. **Chen, J.**, Odier, P., Rivera, M. and Ecke, R., Measuremnt of entrainment and mixing from an oceanic overflow facility, ***proceedings of 2007 5th International Symposium on Environmental Hydraulics***, Tempe, AZ, USA.
7. **Chen, J.**, Odier, P., Rivera, M. and Ecke, R., Laboratory measuremnt of entrainment and mixing in oceanic overflows, ***proceedings of 2007 5th Joint ASME/JSME Fluids Enigneering Conference***, San Diego, CA, USA.
6. **Chen, J.**, Odier, P., Rivera, M. and Ecke, R., Measurement of turbulent mixing along slope in stratified flow, ***proceedings of 2006 ASME Joint U. S. – European Fluids Engineering Summer Conference***, Miami, FL, USA.

5. Cybyk, B. Z., Simon, D. H., III, H. B. L., **Chen, J.**, and Katz, J., Experimental characterization of a supersonic flow control actuator, ***44th AIAA Aerospace Sciences Meeting and Exhibit (2006), AIAA 2006-0478.***
4. **Chen, J.** and Katz, J., Advances of the correlation mapping method to eliminate the peak-locking effect in PIV analysis, ***proceedings of 2005 ASME Fluids Engineering Summer Conference***, Huston, TX, USA.
3. Cybyk, B. Grossman, K., Wilerson, J., **Chen J.** and Katz, J. Single-pulse performance of the SparkJet flow control actuator, ***43rd AIAA Aerospace Sciences Meeting and Exhibit (2005), AIAA paper 05-0401***
2. **Chen, J.**, Katz, J., and Meneveau, C., Study of scale-interactions in strained and destrained turbulence, ***proceedings of 2004 ASME Heat Transfer/Fluids Engineering Summer Conference***, Charlotte, NC, USA.
1. **Chen, J.** and Katz, J., A correlation mapping method to eliminate the peak-locking effect in PIV analysis, ***proceedings of 2004 ASME Heat Transfer/Fluids Engineering Summer Conference***, Charlotte, NC, USA.

AWARDS & HONORS

- ***2018 ASCE Sustainable Development Award*** (awarded to the Purdue student design team advised by W. Wu and J. Chen), 2018.
- ***2016 YCOSST P3 AWARD*** presented by the AIChE Institute for Sustainability (awarded to the Purdue undergraduate team advised by J. Chen), 2016.
- ***2014 ROBERT T. KNAPP AWARD***, The Fluids Engineering Division, ASME, (awarded to J. Gao, J. Chen, D. Guildenbecher and P. Reu), 2014.08.
- ***OUTSTANDING FLUID MECHANICS PAPER AWARD 2005***, Measurement Science and Technology, Institute of Physics Publishing (awarded to J. Chen and J. Katz), 2006.02.

PROFESSIONAL SERVICE

Associate Editor, ***ASME Journal of Fluids Engineering,*** 2017.02 ~ present

Panel Reviewer, ***NSF***, 2020.03

Panel Reviewer, ***NSF-MRI***, 2018.05

International Reviewer

- United States-Israel Binational Science Foundation
- King Fahd University of Petroleum and Minerals Deanship of Scientific Research
- Tianjin University Oversea Online Peer Review

Faculty Advisor, ***Global Design Team***, Purdue Global Engineering Program, led two study aboard trips Cameroon, Africa, in 2014 and 2015.

Article Reviewer:

- Applied Acoustics
- Applied Physics Letters
- Applied Science
- Building and Environment

- Energies
- Experiments in Fluids
- Fluid Dynamics Research
- IEEE Transactions on Instrumentation and Measurement
- International Journal of Heat and Mass Transfer
- International Journal of Multiphase Flow
- International Journal of Smart and Nano Materials
- InterNoise 2012
- Journal of Electronic Materials
- Journal of Wind Engineering & Industrial Aerodynamics
- International Journal for Computational Methods in Engineering Science & Mechanics
- Journal of Fluid Mechanics
- Journal of Fluids Engineering
- Journal of Thermophysics and Heat Transfer
- Journal of Applied Fluid Mechanics
- Journal of Propulsion and Power
- Experimental Thermal and Fluid Science
- Journal of Turbulence
- Optics Express
- Physics of Fluids
- IEEE Transactions on Instrumentation & Measurement

Track co-organizer, ***Fluid Mechanics Technical Committee***, ASME 2020 Fluids Engineering Summer Meeting, 2020.07.

Track co-organizer, ***Fluid Mechanics Technical Committee***, ASME-JSME-KSME Joint Fluids Engineering Conference 2019.

Vice-chair, ***Fluid Mechanics Technical Committee***, ASME, 2018.07~

Organizer and co-Chair, ***Forum on Fluid Measurement and Instrumentation,*** ASME 2014 Fluids Engineering Summer Meeting, 2014.08.

Organizer and co-Chair, ***Forum on Fluid Measurement and Instrumentation,*** ASME 2011 Fluids Engineering Summer Meeting, 2011.08

Organizer and co-Chair, ***Forum on Fluid Measurement and Instrumentation,*** ASME 2010 3rd Joint US-European Fluids Engineering Summer Meeting and 8th International Conference on Nanochannels, Microchannels, and Minichannels, 2010.08.

GRADUATE STUDENTS THESES SUPERVISED

Ph.D. Theses

7. Longchao Yao, Digital holographic method and application to measurement of particle combustion and droplet atomization, PhD 2019, Zhejiang University (Hangzhou, China), co-advisor.
6. Zachery Adams, Development of Advanced Cycloturbine and Cyclorotor Blade Pitching Kinematics, PhD 2016, School of Mechanical Engineering, Purdue University.

5. Ningbo Zhang, Air Quality in the Interior Space of Enclosed Buildings, PhD 2015, Donghua University (Shanghai, China), co-advisor.
4. Anna-Elodie Kerlo, Experimental Study of Pathological and Cardiovascular Device Hemodynamics, PhD 2013, School of Mechanical Engineering, Purdue University.
3. Jian Gao, Development and Applications of Digital Holography to Particle Field Measurement and In Vivo Biological Imaging, PhD 2013, School of Mechanical Engineering, Purdue University.
2. Duo Xu, Experimental Study of Turbulent Stratified Jet, PhD 2012, School of Mechanical Engineering, Purdue University.
1. Yiping Wang, Comprehensive Study of Generation Mechanism and Reduction Methods of Vehicle Wind Rush Noise and Buffeting Noise, PhD 2012, Hunan University (Changsha, China), co-advisor.

M.S. Theses

8. Ang Li, Characterization of Aerodynamic and Aeroacoustic Performance of Bladeless Fans, MSAAE 2019, School of Aeronautics and Astronautics Engineering, Purdue University.
7. Yijie Wang, Development of a Cross-platform Algorithm for Application of Digital Holography in 3D Particle Detection, MSME 2019, School of Mechanical Engineering, Purdue University.
6. Ranchi Chen, Numerical Characterization of Convective Heat Transfer of Low-Rise Buildings, MSME 2015, School of Mechanical Engineering, Purdue University.
5. Zhu Shi, Numerical Simulation and Characterization of Jet Flows in Indoor Environments, MS 2015, School of Mechanical Engineering, Purdue University.
4. Xiangyu Gao, Characterization of Wake Effects and Loading Status of Wind Turbine Arrays Under Different Inflow Conditions, MSME 2015, School of Mechanical Engineering, Purdue University.
3. Zijie Qu, Experimental Characterization of the PT Asymmetry with Balanced Inflow and Outflow at Different Reynolds Numbers, MSME 2014, School of Mechanical Engineering, Purdue University.
2. Hsu Chew Lee, A Study of Low Speed Flow Noise and its Reduction by Numerical Simulations, MSME 2012, School of Mechanical Engineering, Purdue University.
1. Jeffery Kennington, Design and Optimization of a Novel Cavopulmonary Assist Device for Fontan Circulation: CFD and PIV Studies, MSME 2011, School of Mechanical Engineering, Purdue University.