Zheng Chen

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Research Interests

Zheng Chen's research focuses on the fundamental flame dynamics in combustion processes. Research interests include theory on ignition and flame propagation, accurate laminar flame speed measurement at normal and engine-relevant conditions, cool flame initiation and propagation, flame propagation in autoignitive mixtures, flame acceleration and deflagration to detonation transition (DDT), detonation and detonation engines.

Education

2009	Ph.D., Department of Mechanical and Aerospace Engineering, Princeton University Major: Combustion and Energy Conversion; Minor: Fluid Mechanics
2006	M. E., Department of Mechanical and Aerospace Engineering, Princeton University Major: Combustion and Energy Conversion; Minor: Fluid Mechanics
2003	M.S., Department of Engineering Mechanics, Tsinghua University Major: Fluid Mechanics
2001	B.S., Department of Engineering Mechanics, Tsinghua University

Professional Experience

2022-present	Professor (with Tenure) Department of Mechanics and Engineering Science, Peking University
2015-2022	Associate Professor (with Tenure) Department of Mechanics and Engineering Science, Peking University
2012-2015	Professor (without Tenure) Department of Mechanics and Engineering Science, Peking University
2009-2011	Associate Professor (without Tenure) Department of Mechanics and Engineering Science, Peking University

Other Experience

2019 Summer	Visiting Professor CORIA, INSA de Rouen, Hosted by Prof. Bruno Renou Funded by Université de Rouen Normandie, France
2014 Summer	Visiting Professor Princeton University, Hosted by Prof. Yiguang Ju Funded by Chinese Government Scholarship, China Scholarship Council
2014 April	Visiting Researcher Tohoku University, Hosted by Prof. Kaoru Maruta Funded by 21st Century COE (Center of Excellence) Program, Japan

Awards and Honors

- **2021, Fellow of the Combustion Institute**
- 2021, Plenary Lecture, 13th Asia-Pacific Conference on Combustion (ASPACC)
- **2020, Hiroshi Tsuju Early Career Researcher Award,** International Combustion Institute
- 2020, Plenary Lecture, The China National Symposium on Combustion
- 2019, Young Scholar Award in Science & Technology, Chinese Society of Theoretical & Applied Mechanics
- 2017, Chung-Hua Wu Outstanding Young Scholar Award, Chinese Society of Engineering Thermophysics
- 2017, Bo-Ya Young Scholar, Peking University,
- 2017, Plenary Lecture, 54th Korean Society of Combustion Symposium, Gangneung, Korea
- **2015, Young Investigator Prize,** Asian-Pacific Conference on Combustion
- 2015, Tingfang Huang/He Xin Outstanding Young Scholar, Peking University
- 2013, Excellent Young Researcher, National Natural Science Foundation of China
- 2009, Chinese Government Award for Outstanding Self-Financed Students Abroad, China Scholarship Council
- **2008, Bernard Lewis Fellowship,** International Combustion Institute
- 2007, Wu Prize for Excellence, Princeton University, 2007
- 2007, Nominated for University Honorific Fellowship, Princeton University
- 2007, International Internship Program Student Award, 21st Century COE Program, Japan

Publications (* corresponding author, graduate student advisee are underlined)

Peer-reviewed Journal Papers (SCI, in English)

Total Publications: 117 (CNF: 37, PROCI: 28, CTM: 9, CST: 5)

Total Citations: 5736 and h-index: 40 (from Google Scholar, Oct. 7th, 2021)

1. D. Yu, **Z. Chen***, Theoretical analysis on the ignition of a combustible mixture by a hot particle, *Journal of Fluid Mechanics,* 936 (2022) A22.
2. Y. Wang, W. Han*, A. Attili, **Z. Chen**, Numerical analysis of very rich propagating spherical flames: soot formation and its impact on the determination of laminar flame speed, *Combustion and Flame,* 237 (2022) 111860.
3. M-E. Clavel, A. Vandel, V. Modica, **Z. Chen,** E. Varea, V. Moureau, B. Renou*, Determination of spatially averaged consumption speed from spherical expanding flame: a new experimental methodology, *Combustion and Flame,* 235 (2022) 111720.
4. C. Huang, Y. Wang, R. Deiterding, D Yu, **Z. Chen***, Numerical studies on weak and strong ignition induced by reflected shock and boundary layer interaction, *Acta Mechanica Sinica,* (2022) In press.
5. Y. Wang, Z. **Chen***, Effects of particle size on the ignition of static CH_4/air and H_2/air mixtures by hot particles, *Combustion Science and Technology*, (2021) In press. Online. https://doi.org/10.1080/00102202.2020.1788006
6. D. Yu, **Z. Chen***, Theoretical analysis on the transient ignition of premixed expanding flame in a quiescent mixture, *Journal of Fluid Mechanics,* **924** (2021) A22
7. Y. Wang*, **Z. Chen**, H. Chen*, Diffraction of weakly unstable detonation through an obstacle with different sizes and shapes, *Physical Review Fluids*, 6 (2021) 043201.
8. Y. Wang, **Z. Chen**, H. Chen*, Propagation of gaseous detonation in spatially inhomogeneous mixtures, *Physics of Fluids,* **33** (2021) 116105.
9. X. Chen, H. Bottler, A. Scholtissek, C. Hasse, **Z. Chen***, Effects of stretch-chemistry interaction on chemical pathways for strained and curved hydrogen/air premixed flames, *Combustion and Flame*, **232** (2021) 111532.

10. Y. Zhang, M. Jeanson, R. Mevel*, **Z. Chen**, N. Chaumeix, Optimizing mixture properties for accurate laminar flame speed measurement from spherically expanding flame: application to $H_2/O_2/N_2$/He mixtures, *Combustion and Flame*, **231** (2021) 111487.
11. Y. Wang, W. Han*, **Z. Chen**, Effects of stratification on premixed cool flame propagation and modeling, *Combustion and Flame*, **229** (2021) 111394.
12. S. Xie, Z. Lu, **Z. Chen***, Effects of strain rate and Lewis number on forced ignition of laminar counterflow diffusion flames, *Combustion and Flame*, **226** (2021) 302-314.
13. Q. Yang, **Z. Chen**, A.J. Susa, R.K. Hanson, P. Zhao*, Thermal-pyrolysis induced over-driven flame and its potential role in the negative-temperature dependence of iso-octane flame speed at elevated temperatures, *Combustion and Flame*, **223** (2021) 65-76.
14. X. Chen, P. Zhao, P. Dai, **Z. Chen***, On the prediction of hot spot induced ignition by the Livengood-Wu integral, *Proceedings of the Combustion Institute*, **38** (2021) 4709-4716.
15. **Z. Chen***, Effects of radiative loss on premixed planar flame propagation, *Proceedings of the Combustion Institute*, **38** (2021) 4683-4690.
16. Y. Wang, C. Huang, R. Deiterding, H. Chen, **Z. Chen***, Propagation of gaseous detonation across inert layers, *Proceedings of the Combustion Institute*, **38** (2021) 3555-3563.
17. Y. Wang, H. Zhang, T. Zirwes, F. Zhang, H. Bockhorn, **Z. Chen***, Ignition of dimethyl ether/air mixtures by hot particles: Impact of low temperature chemical reactions, *Proceedings of the Combustion Institute*, **38** (2021) 2459-2466.
18. P. Dai*, **Z. Chen**, X. Gan, M.A. Liberman, Autoignition and detonation development from a hot spot inside a closed chamber: effects of end wall reflection, *Proceedings of the Combustion Institute*, **38** (2021) 5905-5913.
19. T. Zirwes*, F. Zhang, Y. Wang, P. Habisreuther, J.A. Denev, **Z Chen**, H. Bockhorn, D. Trimis, In-situ flame particle tracking based on barycentric coordinates for studying local flame dynamics in pulsating Bunsen flames, *Proceedings of the Combustion Institute*, **38** (2021) 2057-2066.
20. H. Bottler*, A. Scholtissek, X. Chen, **Z. Chen**, C. Hasse, Premixed flames for arbitrary combinations of strain and curvature, *Proceedings of the Combustion Institute*, **38** (2021) 2031-2039.
21. X. Chen, W. Peng, P. Gillard, L. Courty, M.L. Sankhe, S. Bernard, Y. Wu, Y. Wang, **Z. Chen***, Effects of fuel decomposition and stratification on the forced ignition of a static flammable mixture, *Combustion Theory and Modelling,* **25** (2021) 813-831.
22. C. Zhou, W. Liang*, **Z. Chen**, On explosion limits of ammonia-oxygen mixtures with hydrogen addition: sensitivity and nonmonotonicity, *Energy & Fuels*, **35** (2021) 14035-14041.
23. X. Chen, Y. Wang, T. Zirwes, F. Zhang, H. Bockhorn, **Z. Chen***, Heat release rate markers for highly-stretched premixed CH_4/air and CH_4/H_2/air flames, *Energy & Fuels*, **35** (2021) 13349-13359.
24. D. Yu, **Z. Chen***, Theoretical analysis on droplet vaporization at elevated temperatures and pressures, *International Journal of Heat and Mass Transfer*, **164** (2021) 120542.
25. J. Su, Y. Wu, Y. Wang, X. Chen, **Z. Chen***, Skeletal and reduced kinetic models for methane oxidation under engine-relevant conditions, *Fuel*, **288** (2021) 119667.
26. J. Su, P. Dai, **Z. Chen***, Detonation development from a hot spot in methane/air mixtures: effects of kinetic models, *International Journal of Engine Research*, **22** (2021) 2597-2606.
27. Y. Wang, P. Guo, H. Chen, **Z. Chen***, Numerical modeling of ignition enhancement by repetitively nanoseond discharge in a hydrogen/air mixture — Part I: Calculations assuming homogeneous ignition, *Journal of Physics D: Applied Physics*, 54 (2021) 065501.
28. Y. Wang, P. Guo, H. Chen, **Z. Chen***, Numerical modeling of ignition enhancement by repetitively nanosecond discharge in a hydrogen/air mixture — Part II: Forced ignition, *Journal of Physics D: Applied Physics*, 54 (2021) 065502.

29. M. Faghih, R. Mevel*, Y. He, **Z. Chen**, Effect of 2-step energy release on the direct detonation initiation by a point energy source in a rich H_2-NO_2/N_2O_4-Ar mixture, *Combustion and Flame*, **222** (2020) 317-325.
30. Y. Wang, A. Movaghar, Z. Wang, Z. Liu, W. Sun, F.N. Egolfopoulos, **Z. Chen***, Laminar flame speeds of methane/air mixtures at engine conditions: Performance of different kinetic models and power-law correlations, *Combustion and Flame*, **218** (2020) 101-108.
31. F. Halter*, **Z. Chen**, G. Dayma, C. Bariki, Y. Wang, P. Dagaut, C. Chauveau, Development of an optically accessible apparatus to characterize the evolution of spherically expanding flames under constant volume conditions, *Combustion and Flame*, **212** (2020) 165-176.
32. Y. Wang, J. Jayachandran, **Z. Chen***, Effects of pressure rise rate on laminar flame speed under normal and engine-relevant conditions, *Combustion Theory and Modelling*, **24** (2020) 953-964.
33. Q. Li, C. Liu, H. Zhang*, M. Wang, **Z. Chen**, Initiation and propagation of spherical premixed flames with inert solid particles, *Combustion Theory and Modelling*, **24** (2020) 606-631.
34. Y. Gao, P. Dai, **Z. Chen***, Numerical studies on autoignition and detonation development from a hot spot in hydrogen/air mixtures, *Combustion Theory and Modelling*, **24** (2020) 245-261.
35. D. Yu, **Z. Chen***, A theoretical analysis on enthalpy of vaporization: temperature-dependence and singularity at the critical state, *Fluid Phase Equilibria*, **516** (2020) 112611.
36. P. Dai*, **Z. Chen**, X. Gan, Autoignition and detonation development induced by a hot spot in fuel-lean and CO_2 diluted n-heptane/air mixtures, *Combustion and Flame*, **201** (2019) 208–214.
37. Z. Li, X. Gou, **Z. Chen***, Effects of hydrogen addition on non-premixed ignition of iso-octane by hot air in a diffusion layer, *Combustion and Flame*, **199** (2019) 292-300.
38. P. Dai*, **Z. Chen**, Effects of NOx addition on autoignition and detonation development in DME/air under engine-relevant conditions, *Proceedings of the Combustion Institute*, **37** (2019) 4813-4820.
39. M. Faghih, H. Li, X. Gou, **Z. Chen***, On laminar premixed flame propagating into autoigniting mixtures under engine-relevant conditions, *Proceedings of the Combustion Institute*, **37** (2019) 4673-4680.
40. Y. Wang, W. Han, **Z. Chen***, Effects of fuel stratification on ignition kernel development and minimum ignition energy of n-decane/air mixtures, *Proceedings of the Combustion Institute*, **37** (2019) 1623-1630.
41. M. Faghih, **Z. Chen***, J. Huo, Z. Ren, C.K. Law, On the determination of laminar flame speed from low-pressure and super-adiabatic propagating spherical flames, *Proceedings of the Combustion Institute*, **37** (2019) 1505-1512.
42. W. Han*, V. Ramana, M.E. Mueller, **Z. Chen**, Effects of combustion models on soot formation and evolution in turbulent nonpremixed flames, *Proceedings of the Combustion Institute*, **37** (2019) 985-992.
43. C. Huang, C. Qi, **Z. Chen***, Non-uniform ignition behind a reflected shock and its influence on ignition delay measured in a shock tube, *Shock Waves,* 29 (2019) 957-967.
44. H. Li, H. Zhang, **Z. Chen***, Effects of endothermic chain-branching reaction on spherical flame initiation and propagation, *Combustion Theory and Modelling*, **23** (2019) 496-514.
45. Y. Wang, W. Han, R. Deiterding, **Z. Chen***, Effects of disturbance on detonation initiation in H_2/O_2/N_2mixture, *Physical Review Fluids*, **3** (2018) 123201.
46. W. Liang*, C.K. Law, **Z. Chen**, Ignition of hydrogen/air mixtures by a heated kernel: role of Soret diffusion, *Combustion and Flame*, **197** (2018) 416-422.
47. M. Faghih, W. Han, **Z. Chen***, Effects of Soret diffusion on premixed flame propagation under engine-relevant conditions, *Combustion and Flame*, **194** (2018) 175-179.
48. W. Zhang, M. Faqih, X. Gou, **Z. Chen***, Numerical study on the transient evolution of a premixed cool flame, *Combustion and Flame*, 187 (2018) 129-136.

49. H. Zhang*, **Z. Chen**, Bifurcation and extinction limit of stretched premixed flames with chain-branching intermediate kinetics and radiative loss, *Combustion Theory and Modelling*, 22 (2018) 531-553.
50. M. Faghih, **Z. Chen***, Two-stage heat release in nitromethane/air flame and its impact on laminar flame speed measurement, *Combustion and Flame*, 183 (2017) 157-165.
51. **Z. Chen***, Effects of radiation on large-scale spherical flame propagation, *Combustion and Flame*, 183 (2017) 66-74.
52. B. Lin, Y. Wu*, Z. Zhang, **Z. Chen**, Multi-channel nanosecond discharge plasma ignition of premixed propane/air under normal and sub-atmospheric pressures, *Combustion and Flame*, 182 (2017) 102-113
53. H. Yu, C. Qi, **Z. Chen***, Effects of flame propagation speed and chamber size on end-gas autoignition, *Proceedings of the Combustion Institute*, 36 (2017) 3533-3541.
54. C. Qi, **Z. Chen***, Effects of temperature perturbation on direct detonation initiation, *Proceedings of the Combustion Institute*, **36** (2017) 2743-2751.
55. C. Qi, P. Dai, H. Yu, **Z. Chen***, Different modes of reaction front propagation in n-heptane/air mixture with concentration non-uniformity, *Proceedings of the Combustion Institute*, **36** (2017) 3633-3641.
56. P. Dai, C. Qi, **Z. Chen***, Effects of initial temperature on autoignition and detonation development in dimethyl ether/air mixtures with temperature gradient, *Proceedings of the Combustion Institute*, **36** (2017) 3643-3650.
57. **Z. Chen***, Effects of radiation absorption on spherical flame propagation and radiation-induced uncertainty in laminar flame speed measurement, *Proceedings of the Combustion Institute*, **36** (2017) 1129-1136.
58. W. Zhang, X. Gou, **Z. Chen*,** Effects of water vapor dilution on the minimum ignition energy of methane, n-butane and n-decane at normal and reduced pressures, *Fuel*, **187** (2017) 111-116.
59. M. Faghih, **Z. Chen***, The constant-volume propagating spherical flame method for laminar flame speed measurement, *Science Bulletin*, **61** (2016) 1296-1310. (Invited review paper)
60. J. Pan, H. Wei*, G. Shu, **Z. Chen**, P. Zhao*, The role of low temperature chemistry in combustion mode development under elevated thermodynamic conditions, *Combustion and Flame*, **174** (2016) 179-193.
61. W. Han*, V. Raman, **Z. Chen**, LES/PDF modeling of autoignition in a lifted turbulent flame: analysis of flame sensitivity to differential diffusion and scalar mixing time-scale, *Combustion and Flame*, **171** (2016) 69-86.
62. J. Pan, G. Shu, P. Zhao, H. Wei*, **Z. Chen**, Interaction of flame propagation, auto-ignition and pressure wave during knocking combustion, *Combustion and Flame*, **164** (2016) 319-328.
63. X. Shi*, J.Y. Chen, **Z. Chen**, Numerical study of laminar flame speed of fuel-stratified hydrogen/air flames, *Combustion and Flame*, **163** (2016) 394-405.
64. W. Zhang, X. Gou*, W. Kong, **Z. Chen**, Laminar flame speeds of lean high-hydrogen syngas at normal and elevated pressures, *Fuel*, **181** (2016) 958-963.
65. W. Han, **Z. Chen***, Effects of finite-rate droplet evaporation on the extinction of spherical burner-stabilized diffusion flames, *International Journal of Heat and Mass Transfer*, **99** (2016) 691-701.
66. M. Faghih, X. Gou, **Z. Chen***, The explosion characteristics of methane, hydrogen and their mixtures: a computational study, *Journal of Loss Prevention in the Process Industries*, **40** (2016) 131-138.
67. H. Yu, **Z. Chen***, End-gas autoignition and detonation development in a closed chamber, *Combustion and Flame*, **162** (2015) 4102-4111.

68. P. Dai, **Z. Chen***, Supersonic reaction front propagation initiated by a hot spot in n-heptane/air mixture with multistage ignition, *Combustion and Flame*, 162 (2015) 4183-4193.
69. **Z. Chen***, On the accuracy of laminar flame speeds measured from outwardly propagating spherical flames: methane/air at normal temperature and pressure, *Combustion and Flame*, **162** (2015) 2242-2253.
70. W. Han, **Z. Chen***, Effects of finite-rate droplet evaporation on the ignition and propagation of premixed spherical spray flame, *Combustion and Flame*, **162** (2015) 2128-2139.
71. W. Sun, X. Gou, H.A. El-Asrag, **Z. Chen**, Y. Ju*, Multi-timescale and correlated dynamic adaptive chemistry modeling of ignition and flame propagation using a real jet fuel surrogate model, *Combustion and Flame*, **162** (2015) 1530-1539.
72. P. Dai, **Z. Chen***, Y. Ju, S. Chen, Numerical experiments on reaction front propagation in n-heptane/air mixture with temperature gradient, *Proceedings of the Combustion Institute*, **35** (2015) 3045-3052.
73. F. Wu, W. Liang, **Z. Chen**, Y. Ju, C.K. Law*, Uncertainty in stretch extrapolation of laminar flame speed from expanding spherical flames, *Proceedings of the Combustion Institute*, **35** (2015) 663-670.
74. E. Varea*, J. Beeckmann, H. Pitsch, **Z. Chen**, B. Renou, Determination of burning velocities from spherically expanding H_2/air flames, *Proceedings of the Combustion Institute*, **35** (2015) 711-719.
75. W. Han, **Z. Chen***, Effects of Soret diffusion on premixed counterflow flames, *Combustion Science and Technology*, **187** (2015) 1195-1207.
76. C.H. Sohn*, **Z. Chen**, Y. Ju, Effects of radiation on the uncertainty of flame speed determination using spherically propagating flames with $CO/CO_2/H_2O$ dilutions at elevated pressures, *International Journal of Heat and Mass Transfer*, **48** (2015) 820-825.
77. W. Han, **Z. Chen***, Effects of Soret diffusion on spherical flame initiation and propagation, *International Journal of Heat and Mass Transfer*, **82** (2015) 309-315.
78. Z. Li, W. Han, D. Liu, **Z. Chen***, Laminar flame propagation and ignition properties of premixed iso-octane/air with hydrogen addition, *Fuel*, **158** (2015) 443-450.
79. M. Han, Y. Ai, **Z. Chen**, W. Kong*, Laminar flame speeds of H_2/CO with CO_2 dilution at normal and elevated pressures and temperatures, *Fuel*, **148** (2015) 32-38.
80. C. Li, Y. Wu, **Z. Chen***, Effects of reaction reversibility on ignition and flame propagation, *Journal of Mathematical Chemistry*, **53** (2015) 386-401.
81. H. Yu, W. Han, J. Santner, X. Gou, C.H. Sohn, Y. Ju, **Z. Chen***, Radiation-induced uncertainty in laminar flame speed measured from propagating spherical flames, *Combustion and Flame*, **161** (2014) 2815-2824.
82. P. Dai, **Z. Chen***, S. Chen, Ignition of methane with hydrogen and dimethyl ether addition, *Fuel*, **118** (2014) 1-8.
83. Y. Ai, Z. Zhou, **Z. Chen**, W. Kong*, Laminar flame speed and Markstein length of syngas at normal and elevated pressures and temperatures, *Fuel*, **137** (2014) 339-345.
84. L. Courty*, K. Chetehouna, **Z. Chen**, F. Halter, C. Mounaïm-Rousselle, J.P. Garo, Determination of laminar burning speeds and Markstein lengths of p-cymene/air mixtures using three models, *Combustion Science and Technology*, **186** (2014) 490-503.
85. B. Bai, **Z. Chen***, H. Zhang, S. Chen, Flame propagation in a tube with wall quenching of radicals, *Combustion and Flame*, **160** (2013) 2810-2819.
86. X. Gou*, **Z. Chen**, W. Sun, Y. Ju*, A dynamic adaptive chemistry scheme with error control for combustion modeling with a large detailed mechanism, *Combustion and Flame*, **160** (2013) 225-231.

87. H. Zhang, P. Guo, **Z. Chen***, Critical condition for the ignition of reactant mixture by radical deposition, *Proceedings of the Combustion Institute*, **34** (2013) 3267-3275.
88. W. Liang, **Z. Chen***, F. Yang, H. Zhang, Effects of Soret diffusion on the laminar flame speed and Markstein length of syngas/air mixtures, *Proceedings of the Combustion Institute*, **34** (2013) 695-702.
89. H.H. Kim, S.H. Won*, J. Santner, **Z. Chen**, Y. Ju, Measurements of the critical initiation radius and unsteady propagation of n-decane/air premixed flames, *Proceedings of the Combustion Institute*, **34** (2013) 929-936.
90. H. Zhang*, **Z. Chen**, Effects of heat conduction and radical quenching on premixed stagnation flame stabilized by a wall, *Combustion Theory and Modelling*, **17** (2013) 682-706.
91. H. Zhang, P. Guo, **Z. Chen***, Outwardly propagating spherical flames with thermally sensitive intermediate kinetics and radiative loss, *Combustion Science and Technology*, **185** (2013) 226-248.
92. F. Yang*, H. Zhang, **Z. Chen**, W. Kong, Interaction of pressure wave and propagating flame during knock, *International Journal of Hydrogen Energy*, **38** (2013) 15510-15519.
93. P. Guo, **Z. Chen***, Ignition enhancement of ethylene/air by NO_x addition, *Chinese Journal of Aeronautics*, **26** (2013) 876-883.
94. W. Zhang, **Z. Chen***, W. Kong, Effects of diluents on the premixed ignition of hydrogen/air mixtures, *Combustion and Flame*, **159** (2012) 151-160.
95. P. Dai, **Z. Chen***, S. Chen, Numerical study on the ignition process of n-decane/toluene binary fuel blends, *Energy & Fuels*, **26** (2012) 6729-6736.
96. **Z. Chen***, P. Dai, S. Chen, A model for the laminar flame speed of binary fuel blends and its application to methane/hydrogen mixtures, *International Journal of Hydrogen Energy*, **37** (2012) 10390-10396.
97. Z. Zhao, **Z. Chen***, HDMR Correlations for the laminar burning velocity of premixed $CH_4/H_2/O_2/N_2$ mixtures, *International Journal of Hydrogen Energy*, **37** (2012) 691-697.
98. Y. Wu, **Z. Chen***, Asymptotic analysis of outwardly propagating spherical flames, *Acta Mechanica Sinica*, **28** (2012) 359-366.
99. H. Zhang, **Z. Chen***, Spherical flame initiation and propagation with thermally sensitive intermediate kinetics, *Combustion and Flame*, **158** (2011) 1520-1531.
100. **Z. Chen***, On the extraction of laminar flame speed and Markstein length from propagating spherical flames, *Combustion and Flame*, **158** (2011) 291-300.
101. **Z. Chen***, M.P. Burke, Y. Ju, On the critical flame radius and minimum ignition energy for spherical flame initiation, *Proceedings of the Combustion Institute*, **33** (2011) 1219-1226.
102. Y. Ju*, W. Sun, M.P. Burke, X. Gou, **Z. Chen**, Multi-timescale modeling of ignition and flame regimes of n-heptane-air mixtures near spark assisted homogeneous charge compression ignition conditions, *Proceedings of the Combustion Institute*, **33** (2011) 1245-1252.
103. Z. Zhao, **Z. Chen***, S. Chen, Correlations for the ignition delay times of hydrogen/air mixtures, *Chinese Science Bulletin*, **56** (2011) 215-221.
104. **Z. Chen***, Effects of radiation and compression on propagating spherical flames of methane/air mixtures near the lean flammability limits, *Combustion and Flame*, **157** (2010) 2267-2276.
105. W. Sun, **Z. Chen**, X. Gou, Y. Ju*, A path flux analysis method for the reduction of detailed chemical kinetic mechanisms, *Combustion and Flame*, **157** (2010) 1298-1307.
106. X. Gou, W. Sun, **Z. Chen**, Y. Ju*, A dynamic multi-time-scale method for combustion modeling with detailed and reduced chemical kinetic mechanisms, *Combustion and Flame*, **157** (2010) 1111-1121.
107. **Z. Chen***, X. Gou, Y. Ju, Studies on the outwardly and inwardly propagating spherical flames with radiative loss, *Combustion Science and Technology*, **182** (2010) 124-142.

108. M.P. Burke, **Z. Chen**, Y. Ju*, F.L. Dryer, Effect of cylindrical confinement on the determination of laminar flame speeds using propagating spherical flames, *Combustion and Flame*, **156** (2009) 771-779.
109. **Z. Chen***, M.P. Burke, Y. Ju, Effects of Lewis number and ignition energy on the determination of laminar flame speed using propagating spherical flames, *Proceedings of the Combustion Institute*, **32** (2009) 1253-1260.
110. **Z. Chen***, M.P. Burke, Y. Ju, Effects of compression and stretch on the determination of laminar flame speeds using propagating spherical flames, *Combustion Theory and Modelling*, **13** (2009) 343-364.
111. **Z. Chen***, Effects of hydrogen addition on the propagation of spherical methane/air flames: a computational study, *International Journal of Hydrogen Energy*, **34** (2009) 6558-6567.
112. **Z. Chen***, Y. Ju, Combined effects of curvature, radiation, and stretch on the extinction of premixed tubular flames, *International Journal of Heat and Mass Transfer*, **51** (2008) 6118-6125.
113. G. Li, H. Rabitz*, J. Hu, **Z. Chen**, Y. Ju, Regularized random-sampling high dimensional model representation (RS-HDMR), *Journal of Mathematical Chemistry*, **43** (2008) 1207-1232.
114. **Z. Chen***, X. Qin, B. Xu, Y. Ju, F. Liu, Studies of radiation absorption on flame speed and flammability limit of CO_2 diluted methane flames at elevated pressures, *Proceedings of the Combustion Institute*, **31** (2007) 2693-2700.
115. **Z. Chen**, X. Qin, Y. Ju*, Z. Zhao, M. Chaos, F.L. Dryer, High temperature ignition and combustion enhancement by dimethyl ether addition to methane-air mixtures, *Proceedings of the Combustion Institute*, **31** (2007) 1215-1222.
116. **Z. Chen**, Y. Ju, Theoretical analysis of the evolution from ignition kernel to flame ball and planar flame, *Combustion Theory and Modelling*, **11** (2007) 427-453.
117. **Z. Chen**, B. Gao, Z. Wu*, Compressible flow equations based on moving coordinates determined by the wave speed, *International Journal for Numerical Methods in Fluids*, **53** (2007) 149-174.

Peer-reviewed Journal Papers (in Chinese)

1. **Z. Chen***, Application of singular perturbation method in the analysis of laminar premixed flames, *Chinese Journal of Theoretical and Applied mechanics*, **50** (2018) 1418-1435. (Invited review paper)
2. X. Gou, W. Sun, **Z. Chen***, Numerical methods for complicated chemical mechanism involved in combustion simulation, *Scientia Sinica Physica, Mechanica & Astronomica*, **47** (2017) 070006. (Invited review paper)
3. W. Han, **Z. Chen***, Effects of Soret diffusion on laminar flames, *Scientia Sinica Technologica*, **45** (2015) 1117-1112. (Invited review paper)
4. W. Zhang, X. Gou, W. Kong, **Z. Chen**, Effects of diluents on the ignition of premixed CH_4/air mixtures, *Journal of Engineering Thermo-physics*, **34** (2013) 1189-1192.
5. H. Yu, **Z. Chen**, X. Gou, Reduced mechanism for the oxidation of ethene, *Journal of Engineering Thermo-physics*, **34** (2013) 376-379.
6. H. Zhang, P. Guo, **Z. Chen**, Studies on the mechanism of radical ignition of premixed gas, *Journal of Engineering Thermo-physics*, **33** (2012) 2219-2222.
7. P. Dai, **Z. Chen**, S. Chen, Ignition properties of n-decane/toluene diffusion flame, *Journal of Engineering Thermo-physics*, **33** (2012) 1815-1818.
8. W. Liang, **Z. Chen**, F. Yang, H. Zhang, Effects of Soret diffusion on the laminar flame speed of syngas, *Journal of Engineering Thermo-physics*, **33** (2012) 1445-1148.
9. W. Zhang, **Z. Chen**, W. Kong, Radiation and kinetic effects on the ignition of H_2/air/CO_2 mixtures, *Journal of Engineering Thermo-physics*, **33** (2012) 1065-1068.

10. **Z. Chen***, A model for the laminar flame speed of binary fuel blends, *Journal of Engineering Thermo-physics*, **33** (2012) 711-714.
11. P. Guo, **Z. Chen**, Effects of O_3 on the ignition of CH_4/air mixtures, *Journal of Engineering Thermo-physics*, **32** (2011) 2160-2163.
12. H. Zhang, **Z. Chen**, Effects of Lewis numbers of fuel and radical on the ignition of premixed gases, *Journal of Engineering Thermo-physics*, **32** (2011) 1249-1252.
13. Z. Zhao, **Z. Chen**, S. Chen, Application of the HDMR method in simulating homogeneous ignition with detailed chemistry, *Journal of Engineering Thermo-physics*, **32** (2011) 691-694.
14. P. Guo, **Z. Chen***, Effects of NOx on the ignition of methane/air mixtures, *Chinese Journal of Combustion Science and Technology*, **16** (2010) 472-476.
15. **Z. Chen***, Effects of radiative heat loss on the propagating speed of spherical flames, *Journal of Engineering Thermo-physics*, **31** (2010) 883-886.

Conference Papers (Full Paper and Presentation)

Papers present on the biennial International Symposium on Combustion are not listed here.

Papers present on the annual China National Symposium on Combustion are not listed here.

1. **Z. Chen**, Flame initiation and detonation development in a gaseous premixture, *13th Asia-Pacific Conference on Combustion (ASPACC),* Abu Dhabi, UAE, Dec. 4-9, 2021.
2. H. Li, **Z. Chen**, Detailed thermal and chemical analysis on flame acceleration at near-wall conditions, *13th Asia-Pacific Conference on Combustion (ASPACC),* Abu Dhabi, UAE, Dec. 4-9, 2021.
3. X. Chen, Z. Li, P. Dai, **Z. Chen**, Non premixed ignition of dimethyl ether under engine-relevant conditions, *13th Asia-Pacific Conference on Combustion (ASPACC),* Abu Dhabi, UAE, Dec. 4-9, 2021.
4. S. Xie, J. Daou, **Z. Chen**, Effects of curvature on triple flame propagation in a counterflow, *13th Asia-Pacific Conference on Combustion (ASPACC),* Abu Dhabi, UAE, Dec. 4-9, 2021.
5. Y. Wang, **Z. Chen**, Effects of low-temperature chemistry on hot-particle ignition in a premixed fuel/air mixture, *27th International Colloquium on the Dynamics of Explosions and Reactive Systems* (*ICDERS*), Beijing, China, Jul. 28-Aug. 2, 2019.
6. Y. Wang, C. Huang, R. Deiterding, **Z. Chen**, Numerical study on detonation propagation across inert layers, *27th International Colloquium on the Dynamics of Explosions and Reactive Systems* (*ICDERS*), Beijing, China, Jul. 28-Aug. 2, 2019.
7. X. Chen, Y. Wang, **Z. Chen**, Effects of fuel decomposition on the minimum ignition energy of decane/air mixture, *27th International Colloquium on the Dynamics of Explosions and Reactive Systems* (*ICDERS*), Beijing, China, Jul. 28-Aug. 2, 2019.
8. Y. Wang, **Z. Chen**, Flow velocity and temperature distributions in a spherically expanding flame, *12th Asia-Pacific Conference on Combustion (ASPACC),* Fukuoka, Japan, Jul. 1-5, 2019.
9. X. Chen, **Z. Chen**, On the prediction of hot spot induced ignition by the Livengood-Wu integral, *12th Asia-Pacific Conference on Combustion (ASPACC),* Fukuoka, Japan, Jul. 1-5, 2019.
10. D. Yu, **Z. Chen**, A theoretical analysis on enthalpy of vaporization: temperature dependence and singularity at the critical state, *12th Asia-Pacific Conference on Combustion (ASPACC),* Fukuoka, Japan, Jul. 1-5, 2019.
11. C. Huang, **Z. Chen**, Properties of detonation propagation in auto-igniting mixtures", *32nd International Symposium on Shock Waves*, Singapore, Jul. 14-19, 2019.
12. **Z. Chen**, Effects of Radiation on Premixed Spherical Flame Propagation, *The 9th European Combustion Meeting,* Lisboa, Portugal, Apr. 14-17, 2019.

13. Y. Wang, W. Han, R. Deiterding, **Z. Chen**, Effects of disturbance and wall on detonation initiation, *11th Asia-Pacific Conference on Combustion (ASPACC),* Sydney, Australia, Dec. 10-14, 2017.
14. C. Huang, C. Qi, **Z. Chen**, Effects of non-uniform ignition on ignition delay measurement in shock tube, *11th Asia-Pacific Conference on Combustion (ASPACC),* Sydney, Australia, Dec. 10-14, 2017.
15. C. Huang, C. Qi, **Z. Chen**, Non-uniform ignition behind a reflected shock and its influence on ignition delay measured in a shock tube", *31st International Symposium on Shock Waves*, Nagoya, Japan, Jul. 9-14, 2017.
16. Y. Gao, **Z. Chen**, Autoignition and detonation development from a hot spot, *26th International Colloquium on the Dynamics of Explosions and Reactive Systems* (*ICDERS*), Boston, USA, Jul. 30-Aug. 4, 2017.
17. Y. Wang, **Z. Chen**, Effects of fuel stratification on ignition kernel development and minimum ignition energy, *26th International Colloquium on the Dynamics of Explosions and Reactive Systems* (*ICDERS*), Boston, USA, Jul. 30-Aug. 4, 2017.
18. H. Li, H. Zhang, **Z. Chen**, Effects of endothermic chain-branching reaction on spherical flame initiation and propagation, *26th International Colloquium on the Dynamics of Explosions and Reactive Systems* (*ICDERS*), Boston, USA, Jul. 30-Aug. 4, 2017.
19. P. Dai, **Z. Chen**, Reaction front propagation initiated by a hot spot in premixed n-heptane/air mixture at low temperature, *25th International Colloquium on the Dynamics of Explosions and Reactive Systems* (*ICDERS*), Leeds, UK, Aug. 2-7, 2015.
20. C. Qi, **Z. Chen**, Numerical simulation of detonation initiation in n-heptane/air mixture with concentration non-uniformity, *25th International Colloquium on the Dynamics of Explosions and Reactive Systems* (*ICDERS*), Leeds, UK, Aug. 2-7, 2015.
21. H. Yu, **Z. Chen**, End-gas autoignition in premixed hydrogen/air mixture, *25th International Colloquium on the Dynamics of Explosions and Reactive Systems* (*ICDERS*), Leeds, UK, Aug. 2-7, 2015.
22. Z. Li, **Z. Chen**, Effects of hydrogen addition on the ignition of iso-octane in a diffusion layer, *10th Asia-Pacific Conference on Combustion (ASPACC),* Beijing China, July 19-22, 2015.
23. M. Faghih, **Z. Chen**, Deflagration index of methane/hydrogen/air mixtures, *10th Asia-Pacific Conference on Combustion (ASPACC),* Beijing China, July 19-22, 2015.
24. W. Han, **Z. Chen**, Effects of preferential diffusion, curvature, and radiation on non-premixed flamelets, *10th Asia-Pacific Conference on Combustion (ASPACC),* Beijing China, July 19-22, 2015.
25. W. Zhang, X. Gou, **Z. Chen**, Effects of water vapor dilution on the minimum ignition energy at normal and reduced pressures, *10th Asia-Pacific Conference on Combustion (ASPACC),* Beijing China, July 19-22, 2015.
26. C. Qi, **Z. Chen**, Modes of reaction front propagation in n-heptane/air mixture with concentration non-uniformity, *10th Asia-Pacific Conference on Combustion (ASPACC),* Beijing China, July 19-22, 2015.
27. H. Yu, **Z. Chen**, End-gas autoignition and detonation development in a closed chamber, *10th Asia-Pacific Conference on Combustion (ASPACC),* Beijing China, July 19-22, 2015.
28. W. Han, **Z. Chen**, Effects of finite-rate droplet evaporation on the ignition and propagation of premixed spherical spray flame, *17th Annual Conference of Liquid Atomization and Spray Systems –Asia*, Shanghai, China, Oct. 26-29, 2014.

29. F. Wu, W. Liang, C.K. Law, **Z. Chen**, On the uncertainty of extrapolation of laminar flame speed and Markstein length from expanding spherical flames", *Fall Technical Meeting of the Eastern States Section of the Combustion Institute*, Clemson, South Carolina, USA, Oct. 2013.
30. **Z. Chen**, Y. Wu, M.P. Burke, Y. Ju, On the extrapolation of laminar flame speed and Markstein length from outwardly propagating spherical flames, *9th Asian-Pacific Conference on Combustion (ASPACC)*, Gyeongju, Korea, May 2013.
31. B. Bai, **Z. Chen**, H. Zhang, S. Chen, Effects of radical quenching on flame propagation in a tube, *9th Asian-Pacific Conference on Combustion (ASPACC),* Gyeongju, Korea, May 2013.
32. P. Dai, **Z. Chen**, S. Chen, Ignition of methane/hydrogen and methane/dimethyl ether binary fuel blends, *9th Asian-Pacific Conference on Combustion (ASPACC),* Gyeongju, Korea, May 2013.
33. X. Gou, **Z. Chen**, W. Sun, Y. Ju, An integrated dynamic adaptive chemistry and hybrid multi-time scale method for combustion modeling with detailed kinetic mechanisms, *9th Asian-Pacific Conference on Combustion (ASPACC),* Gyeongju, Korea, May 2013.
34. W. Liang, C.K. Law, **Z. Chen**, Role of Soret diffusion in the ignition of hydrogen/air mixtures by a heated kernel, *8th US National Combustion Meeting,* Utah, USA, May 2013, Paper 1D15.
35. H. Zhang, X. Zhang, **Z. Chen**, Outwardly propagating spherical flames with thermally sensitive intermediate kinetics and radiative loss, *23rd International Colloquium on the Dynamics of Explosions and Reactive Systems (ICDERS),* Irvine, USA, Jul. 2011.
36. X. Gou, W. Sun, **Z. Chen**, Y. Ju, An integrated dynamic adaptive chemistry and multi-time scale method for combustion modeling with detailed kinetic mechanisms, *8th Asian-Pacific Conference on Combustion (ASPACC),* Hyderabad, India, Dec. 2010, Paper LT1042.
37. Y. Ju, W. Sun, X. Gou, **Z. Chen**, Direct modeling of auto-ignition and flame propagation of N-heptane-air mixtures at HCCI conditions by using dynamic multi-timescale method, *48th AIAA Aerospace Sciences Meeting and Exhibit,* Orlando, Florida, Jan. 2010, Paper No. 2010-606.
38. X. Gou, W. Sun, **Z. Chen**, Y. Ju, A dynamic multi time scale method for modeling of combustion with detailed kinetic mechanisms, *6th US Combustion Meeting,* Ann Arbor, Michigan, USA, May 2009, Paper 22F5.
39. W. Sun, **Z. Chen**, X. Gou, Y. Ju, A path flux analysis method for the reduction of chemical kinetic mechanisms, *6th US Combustion Meeting,* Ann Arbor, Michigan, USA, May 2009, Paper No. 23F3.
40. **Z. Chen**, Y. Ju, Studies on the outwardly and inwardly propagating spherical flames with radiative heat loss, *7th Asian-Pacific Conference on Combustion (ASPACC),* Taiwan, May 2009, Paper No. 10018.
41. **Z. Chen**, M.P. Burke, Y. Ju, Effects of preferential diffusion on spherical flame initiation and minimum ignition energy, *7th Asian-Pacific Conference on Combustion (ASPACC),* Taiwan, May 2009, Paper No. 10059.
42. X. Gou, **Z. Chen**, W. Sun, Y. Ju, Kinetic Mechanism Reduction by Using a Genetic Algorithm, *7th Asian-Pacific Conference on Combustion (ASPACC),* Taiwan, May 2009, Paper No. 10061.
43. **Z. Chen**, M.P. Burke, Y. Ju, Studies on the critical flame radius and minimum ignition energy for spherical flame initiation, *47th AIAA Aerospace Sciences Meeting and Exhibit,* Orlando, Florida, Jan. 2009, Paper No. 2009-1184.
44. X. Gou, **Z. Chen**, W. Sun, Y. Ju, An efficient multi time scale method for solving stiff ODEs with detailed kinetic mechanisms and multi scale physical chemical processes, *47th AIAA Aerospace Sciences Meeting and Exhibit,* Orlando, Florida, Jan. 2009, Paper No. 2009-1369.

45. **Z. Chen**, M.P. Burke, Y. Ju, Effects of Lewis number on spherical flame initiation, *46th AIAA Aerospace Sciences Meeting and Exhibit,* Reno, Jan. 2008, Paper No. 2008-977.
46. **Z. Chen**, Y. Ju, Stretch effect on the accurate determination of laminar flame speed using expanding flames in a spherical bomb, *Eastern States Section Meeting of the Combustion Institute,* Charlottesville, Virginia, USA, Oct. 2007, Paper B26.
47. **Z. Chen**, X. Qin, Y. Ju, Burning properties of dimethyl ether/methane/air mixtures at normal and elevated pressures, *18th International Symposium on Transport Phenomena,* Daejeon, Korea, Aug. 2007, Paper #322.
48. **Z. Chen**, Y. Ju, On the accurate determination of flame speed at normal and elevated pressures by using a spherical bomb: the effect of compression and stretch, *6th Asian-Pacific Conference on Combustion (ASPACC),* Nagoya, Japan, May 2007, Paper C125.
49. **Z. Chen**, Y. Ju, The effects of flow compression on the determination of flame speed using propagating spherical flames at normal and elevated pressures, *5th US Combustion Meeting,* San Diego, California, USA, Mar. 2007, Paper A23.
50. **Z. Chen**, Y. Ju, Combined effects of radiation, stretch and curvature on the extinction of premixed tubular flames, *45th AIAA Aerospace Sciences Meeting and Exhibit,* Reno, Jan. 2007, Paper No. 2007-0175.
51. **Z. Chen**, Y. Ju, On the accurate determination of flame speed at normal and elevated pressures by using a spherical bomb: the effect of compression and stretch, *45th AIAA Aerospace Sciences Meeting and Exhibit,* Reno, Jan. 2007, Paper No. 2007-0378.
52. **Z. Chen**, Y. Ju, Theoretical analysis of the evolution from ignition kernel to flame ball and planar flame, *44th AIAA Aerospace Sciences Meeting and Exhibit,* Reno, Jan. 2006, Paper No. 2006-0162.
53. X. Qin, **Z. Chen**, Y. Ju, Experimental and numerical studies of spectral dependent radiation reabsorption on CO_2 diluted flames, *44th AIAA Aerospace Sciences Meeting and Exhibit,* Reno, Jan. 2006, Paper No. 2006-1164.
54. T. Yokomori, **Z. Chen**, Y. Ju, Studies on the flame curvature effect on burning velocity, *44th AIAA Aerospace Sciences Meeting and Exhibit,* Reno, Jan. 2006, Paper No. 2006-0161.
55. X. Qin, **Z. Chen**, Y. Ju, Effects of radiation reabsorption on flame propagation and flammability limits in CO_2 diluted flames, *20th International Colloquium on the Dynamics of Explosions and Reactive Systems (ICDERS),* Montreal, Canada, Aug. 2005.
56. **Z. Chen**, X. Qin, and Y. Ju, Experimental and numerical study of spectral radiation in propagating spherical flames, *Proceedings of the Combustion Institute/4th Joint Meeting of the U.S. Sections,* Philadelphia, PA, USA, Mar. 2005, Paper E04.
57. X. Qin, **Z. Chen**, Y. Ju, Experimental and numerical study of spectral dependent radiation reabsorption on flame propagation, *43rd AIAA Aerospace Sciences Meeting and Exhibit,* Reno, Jan. 2005, Paper No. 2005-0149.
58. **Z. Chen**, J. Shi, Z. Wu, Generalized characteristic coordinate system for compressible flow computation with shock waves and expansion fans, *4th Asian Workshop on CFD,* Japan, May 2004.
59. **Z. Chen**, Y. Ju, S. Minaev, Flammability and stability analysis of cylindrical flames, *10th Chinese Conference on Thermal Physics,* Qingdao, China, Oct. 2001.

Conference Papers (Abstract and Presentation/Posters)

1. S. Xie, **Z. Chen**, Effects of strain rates on minimum ignition energy in a premixed counterflow, *18th International Conference of Flow Dynamics,* Sendai, Japan, Oct. 27-29, 2021.

2. **Z. Chen**, Measurement of laminar flame speeds at engine conditions: challenges and recent progress, *3rd International Discussion Meeting on Chemistry and Technology of Combustion Application,* Beijing, June 5, 2021
3. Y. Wang, **Z. Chen**, Propagation of gaseous detonation across inert layers, *International Symposium of Explosions and Reactive Flows,* Beijing, Sep. 26-27, 2020
4. **Z. Chen**, On the accurate determination of laminar burning velocity from constant-volume propagating spherical flames, *3rd International Workshop on Laminar Burning Velocity,* Lisbon, April 14, 2019
5. X. Chen, W. Han, **Z. Chen**, Effects of turbulence on forced ignition in a premixture, *16th International Conference of Flow Dynamics,* Sendai, Japan, Nov. 6-8, 2019.
6. Y. Wang, **Z. Chen**, Numerical study on premixed cool flame initiation and propagation, *17th International Conference on Numerical Combustion,* May 6-8, 2019, Aachen, Germany.
7. C. Huang, C. Qi, **Z. Chen**, Detonation development after a reflected shock and its influence on ignition delay measurement, *The 9th Across Strait Symposium on Shock Waves/Complex Flows,* Yangzhou, China, April 14-16, 2018.
8. C. Huang, C. Qi, **Z. Chen**, Non-uniform ignition behind a reflected shock and its influence on ignition delay measured in a shock tube, poster, *37th International Symposium on Combustion,* Dublin, Ireland, Jul. 29th-Aug. 3rd, 2018.
9. H. Li, **Z. Chen**, Numerical studies on flame-wall interaction in a closed chamber, poster, *37th International Symposium on Combustion,* Dublin, Ireland, Jul. 29th-Aug. 3rd, 2018.
10. **Z. Chen**, Initiation and propagation of a premixed cool flame, *14th International Conference on Combustion and Energy Utilization,* Sendai, Japan, Nov. 7-9, 2018
11. **Z. Chen**, Autoignition and detonation development due to reactivity non-uniformity, *14th International Conference of Flow Dynamics,* Sendai, Japan, Nov. 1-3, 2017
12. Z. Li, X. Gou, **Z. Chen**, Non-premixed ignition of iso-octane/hydrogen binary fuel blends by hot air, poster, *36th International Symposium on Combustion,* Seoul, Korea, Jul. 31st ~Aug. 5th, 2016
13. **Z. Chen**, On the accuracy of laminar burning velocity measured from propagating spherical flames, *2nd International Workshop on Laminar Burning Velocity,* Rouen, France, Mar. 23-24, 2015
14. W. Han, **Z. Chen**, Spherical flame initiation and propagation in a liquid fuel mist with finite-rate evaporation, poster, *35th International Symposium on Combustion,* San Francisco, USA, Aug. 2014.
15. H. Yu, **Z. Chen**, E. Varea, B. Renou, F. Halter, Y. Ju, Markstein length in outwardly propagating spherical flames, poster, *35th International Symposium on Combustion,* San Francisco, USA, Aug. 2014.
16. P. Dai, **Z. Chen**, S.Y. Chen, Ignition enhancement by hydrogen or dimethyl ether addition to methane-air mixtures, poster, *34th International Symposium on Combustion,* Warsaw, Poland, Aug. 2012.
17. **Z. Chen**, Studies on the ignition and flame propagation of premixture near the flammability limit, *Asian Microgravity Pre-Symposium (9th China-Japan-Korea Workshop on Microgravity Sciences),* Guilin, China, Oct. 2012.
18. W. Zhang, X. Gou, W. Kong, **Z. Chen**, Ignition of premixed H_2/air/diluent and CH_4/air/diluent mixtures, *Asian Microgravity Pre-Symposium (9th China-Japan-Korea Workshop on Microgravity Sciences),* Guilin, China, Oct. 2012.

19. **Z. Chen**, Studies on the laminar flame speed of binary fuel blends, *The 23rd International Congress of Theoretical and Applied Mechanics,* Beijing, China, Aug. 2012.
20. P. Dai, **Z. Chen**, S. Chen, Studies on the ignition of n-decane/toluene binary fuel blends, *The 23rd International Congress of Theoretical and Applied Mechanics,* Beijing, China, Aug. 2012.
21. P. Guo, **Z. Chen**, Thermal and kinetic effects of ozone addition on the combustion of methane/air mixtures, *The 23rd International Congress of Theoretical and Applied Mechanics,* Beijing, China, Aug. 2012.
22. F.L. Dryer, S. Zaidi, **Z. Chen**, Y. Ju, M.P. Burke, M. Chaos, Further studies on spontaneous ignition of compressed hydrogen releases into air, *6th US Combustion Meeting,* Ann Arbor, Michigan, USA, May 2009, Poster 1P01.
23. **Z. Chen**, Y. Ju, Numerical simulation of propagating flames using locally adaptive mesh, *SIAM: 12th International Conference on Numerical Combustion,* Monterey, California, USA, Mar. 2008.
24. **Z. Chen**, M.P. Burke, Y. Ju, Effect of radiation on the determination of laminar flame speed using propagating spherical flames, *SIAM: 12th International Conference on Numerical Combustion,* Monterey, California, USA, Mar. 2008.
25. T. Yokomori, **Z. Chen**, Y. Ju, Numerical and theoretical study of flame speed of highly curved premixed flame, *44th Japanese combustion symposium,* Hiroshima, Japan, Dec. 2006, Paper A132.
26. T. Yokomori, **Z. Chen**, Y. Ju, Curvature effect on the flame speed of highly curved flames, *31st International Symposium on Combustion,* Heidelberg, Germany, Aug. 2006, Work-in-Progress 2E-15.
27. Z. Wu, **Z. Chen**, The application of generalized characteristic coordinate system, *5th Asian Computational Fluid Dynamics Conference,* Busan, Korea, Oct. 2003.

Invited Lectures and Presentations at conferences

1. Plenary lecture, Flame initiation and detonation development in a gaseous premixture, *13th Asia-Pacific Conference on Combustion (ASPACC),* Abu Dhabi, United Arab Emirates, Dec. 4-9, 2021 (to be held, my lecture title and abstract have been posted on the conference website).
2. Invited talk, Change of the detonation cellular structure after its head-on collision with a shock wave, *International Workshop on Explosions and Reactive Flows,* Beijing, China, July 24~25 2021
3. Invited talk, Measurement of laminar flame speeds at engine conditions: challenges and recent progress, *3rd International Discussion Meeting on Chemistry and Technology of Combustion Application,* Beijing, June 5, 2021
4. Invited talk, Propagation of gaseous detonation across inert layers, *International Symposium of Explosions and Reactive Flows,* Beijing, Sep. 26-27, 2020
5. Plenary lecture, Ignition, flame propagation and detonation development in flammable mixture, *China National Symposium on Combustion,* XiaMen, China, Nov. 12-15, 2020
6. Invited topical lecture, Propagation of gaseous detonation across inert layers, *International Symposium of Explosions and Reactive Flows,* Beijing, China, Sep. 26-27, 2020
7. Invited topical lecture, Effects of turbulence on forced ignition in a premixture, *Sixteenth International Conference of Flow Dynamics,* Sendai, Japan, Nov. 6-8, 2019
8. Invited talk, Numerical studies on the non-uniform ignition in a shock tube, *International Workshop of Explosions and Reactive Flows,* Beijing, Nov. 1-3, 2019
9. Invited talk, Effects of disturbance on detonation initiation and propagation, *1st Young Scholoar Meeting on Weapon Science and Technology,* Beijing, May 26, 2019

10. Invited talk, On the accurate determination of laminar burning velocity from constant-volume propagating spherical flames, *3rd International Workshop on Laminar Burning Velocity,* Lisbon, April 14, 2019
11. Invited talk, Different modes of reaction front propagation induced by reactivity non-uniformity, *International Workshop on Extreme Combustion,* ZhenJiang, China, Mar. 9, 2019
12. Invited talk, Effects of radiation on large-scale spherical flame propagation, *Annual Meeting of CAPT,* Beijing, Jan. 12, 2019
13. Invited talk, Initiation and propagation of a premixed cool flame, *14th International Conference on Combustion and Energy Utilization,* Sendai, Japan, Nov. 7-9, 2018.
14. Invited talk, Detonation initiation and propagation in non-uniform mixture, *International Seminar on the Dynamics of Explosions and Reactive Flow,* Beijing, Sep. 21, 2018
15. Invited talk, Autoignition and detonation development due to reactivity non-uniformity, *14th International Conference of Flow Dynamics,* Sendai, Japan, Nov. 1-3, 2017
16. Invited talk, Detonation development due to reactivity non-uniformity in internal combustion engines, *Second National Conference on Piston Aero-engine,* Beijing, September 29, 2017
17. Invited talk, Transient evolution of a premixed cool flame, *Second International Workshop on Advance in Energy, Environment, and Combustion,* LaSha, Tibet, August 16, 2017.
18. Invited talk, Autoignition and detonation development from a hot spot in hydrogen/air mixture, The special session on "The current status and future outlook on gaseous detonation research", of *the 26th International Colloquium on the Dynamics of Explosions and Reactive Systems* (*ICDERS*), Boston, USA, Jul. 30-Aug. 4th, 2017
19. Keynote lecture, Detonation development due to reactivity non-uniformity in internal combustion engines, *9th National Conference on Intensive Loading Effects and Protection,* Beijing, July 1-3, 2017.
20. Plenary lecture, Advances and challenges in accurate measurement of laminar burning velocity, *54th Spring Meeting of Korean Society of Combustion (KOSCO),* Gangneung, Korea, May 18-20, 2017.
21. Keynote lecture, End-gas autoignition and detonation development in a closed chamber, *International Symposium on Combustion Instabilities,* Beijing, January 5-9, 2017.
22. Keynote lecture, Transition from fast flame to detonation, *International Workshop on Intensive Loading and Its Effects,* Beijing, December 9-11, 2016.
23. Keynote lecture, Effects of radical quenching on flame propagation in a tube, *International Workshop on Micro Power & Energy System,* Guangzhou, October 29-30, 2016.
24. Keynote lecture, Detonation development due to reactivity non-uniformity, *The 60th Anniversary of the Founding of the Institute of Engineering Thermophysics,* Beijing, March 18-20, 2016.
25. Keynote lecture, Adaptive methods for multi-scale combustion simulation, *Symposium on Numerical Methods for Multiphase Reactive Flow,* Beijing, October 19-23, 2015.
26. Plenary Lecture, Advances and challenges in laminar flames, *1st China National Young Scholar Meeting on Combustion Research,* Shanghai, September 18-20, 2015
27. Invited talk, On the accuracy of laminar burning velocity measured from propagating spherical flames, *Workshop on Laminar Burning Velocity,* Rouen, France, Mar. 23-24, 2015.
28. Keynote lecture, Autoignition during high-pressure hydrogen release, *287th Young Scientist Forum,* Beijing, December 20-21, 2014

Invited Seminars

1. Ignition, flame propagation and detonation development in a gaseous premixture, *North China Electric Power University,* Oct. 15, 2019

2. Flame initiation and detonation development in a gaseous premixture, *Coria, INSA Rouen,* Aug. 30, 2019
3. Adaptive methods for combustion simulation and their applications, *China Academy of Launch Vehicle Technology,* Nov. 1, 2018
4. Does the pressure rise rate affect burning rate? *Beijing Jiao Tong University,* August 21, 2018
5. Propagation of a premixed cool flame, *Tsinghua University,* February 28, 2018
6. Transition from fast flame to detonation, *Laboratory of Computational Physics, Institute of Applied Physics and Computational Mathematics,* January 4, 2018
7. Effects of radiation on large-scale spherical flame propagation, *Institute of Engineering Thermophysics, Chinese Academy of Sciences,* June 28, 2017.
8. Effects of radiation on premixed spherical flame propagation, *Pukyong National University,* Republic of Korea, May 16, 2017.
9. End-gas autoignition and detonation development, *Shanghai Jiao Tong University,* April 7, 2017.
10. Transition from fast flame to detonation, *Southern University of Science and Technology,* Jan. 21, 2017.
11. Adaptive methods for multi-scale combustion simulation, *Southern University of Science and Technology,* August 17, 2016
12. Flame propagation in autoigniting mixture, *Institute of Engineering Thermophysics, Chinese Academy of Sciences,* May 24, 2016
13. Effects of radiation on premixed flame propagation, *Chongqing University,* May 20, 2016
14. Detonation development due to reactivity non-uniformity, *Beijing Institute of Technology,* Beijing, December 21, 2015.
15. End-gas autoignition and detonation development in a closed chamber, *Institute of Engineering Thermophysics, Chinese Academy of Sciences,* September 21, 2015
16. Adaptive methods for multi-scale combustion simulation, *China Academy of Aerospace Aerodynamics,* September 16, 2015.
17. End-gas autoignition and abnormal combustion, *Beijing University of Aeronautics and Astronautics,* August 12, 2015.
18. End-gas auto-ignition in H_2/air mixture, *Tsinghua University,* December 1, 2014.
19. On combustion simulation with detailed chemistry, *Laboratory of Computational Physics, Institute of Applied Physics and Computational Mathematics,* November 19, 2014
20. Ignition, flame propagation, and extinction of premixed flames, *Xi'an Jiao Tong University,* August 19, 2013.
21. Algorithms for adaptive combustion simulation and their applications, *State Key Laboratory of Explosion Science and Technology, Beijing Institute of Technology,* January 17, 2013.
22. Effects of radical transportation on the initiation, propagation, and extinction of premixed flames, *Chongqing University,* August 1st, 2011.
23. Spherical flame initiation and propagation, *Tsinghua University,* July 9, 2011.
24. Ignition and flame propagation of diluted/lean hydrogen-air mixtures, *Tsinghua University,* June 21, 2011.
25. Adaptive simulation of unsteady reactive flow and its applications, *Tsinghua University,* May 7, 2011.
26. Studies on non-equilibrium plasma assisted combustion, *Institute of Mechanics, Chinese Academy of Science,* January 14, 2011.
27. Adaptive simulation of unsteady reactive flow and its applications, *Tsinghua University,* December 23, 2010.

28. Fundamental combustion properties of alternative fuels, *The Academy of Equipment Command and Technology,* January 28, 2010
29. Adaptive simulation of multi-scale reactive flow, *Stake Key Laboratory of Nonlinear Mechanics, Institute of Mechanics, Chinese Academy of Science,* April 17, 2009.
30. Ignition and flame dynamics of alternative fuels, *Stake Key Laboratory of High-temperature Gas Dynamics, Institute of Mechanics, Chinese Academy of Science,* July 2, 2008.
31. Fundamental combustion properties of alternative fuels, *National Synchrotron Radiation Laboratory, University of Science and Technology of China,* June 18, 2007.

Teaching Experience

Courses taught at Peking University

- Fundamentals of Combustion
  Fall 2009 (18 students), Fall 2010 (43 students), Spring 2012 (20 students), Fall 2012 (12 students), Fall 2013 (18 students), Spring 2016 (17 students), Fall 2018 (14 students), Spring 2020 (17 students), 100% responsibility
- Combustion Theory and Modeling
  Spring 2010 (11 students), Spring 2015 (10 students), Spring 2017 (7 students), Spring 2019 (7 students), Fall 2020 (16 students), 100% responsibility
- Engineering Fluid Mechanics
  Fall 2011 (37 students), Fall 2015 (20 students), Fall 2017(12 students), Spring 2018 (27 students), Fall 2019 (9 students), Fall 2021 (11 students), 100% responsibility
- Energy and Propulsion
  Spring 2013 (20 students), Spring 2014 (33 students), Fall 2016 (20 students), Spring 2021 (21 students), 100% responsibility
- Engineering Thermodynamics
  Spring 2014 (13 students), 100% responsibility
- Introduction to Physics of Gases
  Spring 2012 (10 students), 100% responsibility
- Chemical Kinetics
  Spring 2011 (11 students), 100% responsibility
- Numerical Heat Transfer and Fluid Flow
  Fall 2010 (21 students), 100% responsibility

Teaching assistant at Princeton University

Gave precept, held office hours, graded assignments and exams, and gave occasional lectures

- Mechanics of Fluids (MAE 222-CEE 208); Spring 2008, ~20 students
- Introduction to Environmental Engineering (CEE 3033); Spring 2007, ~60 students
- Mathematics in Engineering (MAT 301-MAE 305); Fall 2006, ~90 students
- Fluid Dynamics (MAE 335); Fall 2006, ~30 students
- Space System Design (MAE 342); Spring 2006, ~30 students

Students and Postdoc

Postdoc and Research Associate

1. Dr. Pengfei Yang, Bo-Ya Postdoc research associate (start in July 2021), research topic: detonation
2. Dr. Dehai Yu, Postdoc research associate (Oct. 2018 – present), research topic: ignition
3. Dr. Yuan Gao, Research associate (Sep. 2015 – Jul. 2016), now Postdoc at Wester Virginia University, USA

4. Dr. Peng Dai, Postdoc research associate (Jul. 2014 – Mar. 2016), now research scientist at Southern University of Science and Technology, China
5. Dr. Xiuqian Li, Postdoc research associate (Oct. 2010 – Sep. 2012), now professor at Academy of Equipment Command and Technology in China
6. Dr. Huangwei Zhang, Research associate (Oct. 2009 – Aug. 2011), now assistant professor at National University of Singapore, Singapore

Ph.D. Thesis Completed

1. Chengyang Huang, Ph.D., (Sep. 2015 – Jul. 2020) dissertation: "Numerical studies on shock-induced ignition and detonation development, now a research scientist at China Aerodynamics Research and Development Center
2. Yuan Wang, Ph.D., (Sep. 2014 – Jul. 2019) dissertation: "Studies on non-uniform ignition and detonation initiation in a premixture, now a research scientist at Key Laboratory of Computational Physics, Institute of Applied Physics and Computational Mathematics
3. Mahdi Faghih Abdollahi, Ph.D., (Sep. 2014 – Jul. 2018) dissertation: "On the accurate determination of laminar flame speed from propagating spherical flames, now a postdoc at Tsinghua University
4. Wang Han, Ph.D., (Sep. 2012 – Jul. 2017) dissertation: "Effects of molecular transport and droplet evaporation on flame dynamics, now a Lecturer (with tenure) at University of Edinburgh
5. Chengken Qi, Ph.D., (Jan. 2014 – Jan. 2017) dissertation: "Effects of reactivity non-uniformity on detonation initiation, now a financial consultant at a bank
6. Hao Yu, Ph.D., (Sep. 2011 – Jul. 2016) dissertation: "Studies on end-gas autoignition and combustion, now an engineer at Institute of navigation and control technology
7. Peng Guo, Ph.D., (Sep. 2010 – Jul. 2015) dissertation: "Studies on non-equilibrium plasma assisted combustion, now a consultant on recruitment
8. Bin Bai, Ph.D., (Sep. 2009 – Jul. 2015) dissertation: "Effects of radical quenching at wall surface on premixed flames, now an engineer at AECC Commercial Aircraft Engine Company, Ltd. (co-supervised with Professor Shiyi Chen)
9. Peng Dai, Ph.D., (Sep. 2010 – Jun. 2014) dissertation: "Effects of chemical kinetics, transport and pressure wave on the ignition process, now research scientist at Southern University of Science and Technology, (co-supervised with Professor Shiyi Chen)

M.S. Thesis Completed

1. Zisen Li, M.S., (Sep. 2013 – Jan. 2017) dissertation: "Combustion properties of iso-octane/hydrogen blending fuel, now a Ph.D. candidate at University of New South Wales
2. Yang Liu, M.S., (Jan. 2009 – Jun. 2010) dissertation: "Application of the projective method in combustion simulation, now an engineer at Commercial Aircraft Corporation of China, Ltd. (co-supervised with Professor Shiyi Chen)

Ph.D. Thesis in Progress

1. Yang Wang, Ph.D. student, (Sep. 2020 – present) dissertation topic: "Near-flammability limit premixed flames"
2. Linlin Yang, Ph.D. student, (Sep. 2019 – present) dissertation topic: "Flame-acoustic interaction"
3. Jie Sun, Ph.D. student, (Sep. 2019 – present) dissertation topic: "Detonation initiation and propagation in heterogeneous mixtures"
4. Jingyi Su, Ph.D. student, (Sep. 2018 – present) dissertation topic: "Interaction between gaseous detonation and shock wave"
5. Xinyi Chen, Ph.D. student, (Sep. 2017 – present) dissertation topic: "Forced ignition in turbulent flow"

6. Yiqing Wang, Ph.D. student, (Sep. 2017 – present) dissertation topic: "Initiation and propagation of cool flames"
7. Haiyue Li, Ph.D. student, (Sep. 2016 – present) dissertation topic: "Flame-wall interaction under engine-relevant conditoins"

M.S. Thesis in Progress

1. Shumeng Xie, M.S. student, (Sep. 2019 – present), thesis topic: "Ignition and flame propagation of triple flames"

Undergraduate Student Research Projects

1. Shuwei Jin (Apr. 2018 – Jun. 2021), project: "Properties of premixed cool flames"
2. Shuyan Guo (Apr. 2019 – Dec. 2020), project: "Studies on pressure rise rate during spherical flame propagation in a closed chamber"
3. Binhong Li (Apr. 2019 – Dec. 2020), project: "Simulation of forced ignition and spherical flame propagation in a closed chamber"
4. Shumeng Xie (Apr. 2018 – Jul. 2019), project: "Simulation of forced ignition in a counter flow of fuel against air"
5. Yuchu Wang (Apr. 2016 – Jul. 2018), project: "Multi-stage heat release in a one-dimensional detonation structure"
6. Hao Zhang (Sep. 2017 – Jul. 2018), project: "Ignition delay and excitation time of hydrogen and dimethyl ether"
7. Haozheng Li (Sep. 2017 – Jul. 2018), project: "Laminar flame speeds of dimethyl ether/air mixtures at elevated temperature"
8. Yiqing Wang (Jun. 2016 – Jul. 2017), project: "Evolution of temperature and flow speed distributions during spherical flame propagation"
9. Chaoyi Liu (Jun. 2016 – Jul. 2017), project: "Effects of particles on spherical flame propagatoin"
10. Yue Zhang (Mar. 2014 – Jul. 2016), project: "Analysis of complex chemical reaction processes of large hydrocarbon fuels" (supported by National Innovating Research Project)
11. Sirui Fu (May 2014 – Jul. 2016), project: "Effects of reaction reversibility on ignition, flame propagation and extinction"
12. Mengzhe Wang (May 2014 – Jul. 2016), project: "Combustion model for single boron particles" (supported by National Innovating Research Project)
13. Yi Wang (Mar. 2015 – Jul. 2016), project: "Explosion properties of flammable gaseous mixtures inside a spherical chamber"
14. Tianhan Zhang (May 2013 – Jul. 2015), project: "Flame propagation in inert porous media"
15. Maolin Wang (Sep. 2013 – Jul. 2015), project: "Effects of wall radical quenching on the propagation of premixed flame"
16. Huiyu Wang (Sep. 2013 – Jun. 2014), project: "Studies on spherical diffusion flame of methane hydrate"
17. Hao Zhang (Feb. 2013 – Jun. 2014), project: "Effects of Soret diffusion of radical on premixed flame propagation"
18. He Sun (Feb. 2013 – Jun. 2014), project: "Premixed flame propagation and extinction in a narrow channel"
19. Xiang Gao (May 2011 – Jun. 2013), project: "Laminar flame speed of binary fuel blends"
20. Cong Li (May 2011 – Jun. 2013), project: "Effects of reaction reversibility on spherical flame propagation"
21. Pengji Li (May 2011 – Jun. 2012), project: "Minimum ignition energy of premixed mixtures"
22. Yunchao Wu (Sep. 2010 – Jun. 2012), project: "Studies on propagating spherical Flame and its application in laminar flame speed measurement"

23. Wenkai Liang (Sep. 2010 – Jun. 2012), project: "Effects of Soret diffusion on the combustion properties of syngas/air mixtures" (supported by National Innovating Research Project)
24. Tailai Ye (Sep. 2010 – Jun. 2011), project: "Effects of radiation on flame propagation"
25. Yirui Wang (Sep. 2010 – Jun. 2011), project: "Measurement of laminar flame speed using propagating spherical flames"
26. Sheng Mao (May 2010 – Jun. 2011), project: "Studies on one-dimensional pulsating detonation with detailed chemistry"
27. Xialing Zhang (May 2010 – Jun. 2011), project: "Effects of fuel and radical Lewis number on spherical flame propagation"
28. Weiqi Sun (May 2010 – Jun. 2011), project: "Initiation and propagation of one-dimensional detonation"
29. Hao Yu (May 2010 – Jun. 2011), project: "Reduction and Simulation Speed-up of Detailed Chemical Mechanism"
30. Peng Dai (May 2009 – Jun. 2010), project: "Effects of curvature and heat loss on flame propagation"
31. Peng Guo (May 2009 – Jun. 2010), project: "Chemical mechanism of ignition and combustion enhancement due to non-thermal plasma"
32. Zhenlong Zhao (May 2009 – Jun. 2010), project: "Application of the HDMR method in combustion simulation with detailed chemistry"

Service

Service to Professor Societies

1. 2021-2026, **Associate Editor,** Combustion and Flame
2. 2020-2026, **Member of Board of Directors,** The Combustion Institute
3. 2019-present, **Member of Board of Directors,** Institute for Dynamics of Explosions and Reactive Systems
4. 2020, **Colloquium Coordinator,** Laminar Flames, 38th International Symposium on Combustion
5. 2016, 2018, **Colloquium Co-Chair,** Laminar Flames, 36th & 37th International Symposium on Combustion
6. 2020-present, Bernard Lewis Fellowship Committee Member, The Combustion Institute
7. 2019, Chair and organizer, the 2nd International Workshop on Near-limit Flames, Beijing
8. 2019, Secretary-in-general of host committee for the 27th ICDERS, Beijing
9. 2017 and 2018, Program Co-Chair, The China National Symposium on Combustion
10. 2017 and 2018, Program Co-Chair, China National Young Scholar Conference on Combustion Research
11. 2020-present, Committee Member of Combustion Webinar
12. 2016-present, Scientific Committee Member of International Workshop on Near-limit Flames
13. 2015-present, Committee member of the Chinese Section of the Combustion Institute
14. 2012-present, Organization committee member of the International Workshop on Flame Chemistry
15. Editorial Board Member:
    - ✧ Combustion and Flame (2017-2020)
    - ✧ Journal of Thermal Science (2018-present)
    - ✧ Chinese Journal of Aeronautics (2017-present)
    - ✧ Journal of Propulsion Technology (in Chinese, 2019-present)
16. Journal reviewer:
    - ✧ Progress in Energy and Combustion Science
    - ✧ Combustion and Flame
    - ✧ Proceedings of the Combustion Institute
    - ✧ Combustion Theory and Modelling
    - ✧ Combustion Science and Technology
    - ✧ Flow, Turbulence and Combustion

- ✧ Fuel
- ✧ Energy & Fuels
- ✧ Journal of Physical Chemistry
- ✧ Physics of Fluids
- ✧ Physical Review Fluids
- ✧ Computers & Fluids
- ✧ Experimental Thermal Fluids
- ✧ Physical Review E
- ✧ Journal Propulsion and Power
- ✧ AIAA Journal
- ✧ Shock Wave
- ✧ International Journal of Engine Research
- ✧ Journal of Hazardous Materials
- ✧ International Journal of Hydrogen Energy
- ✧ Applied Energy
- ✧ Applied Thermal Engineering
- ✧ Acta Mechanica Sinica
- ✧ Frontiers in Energy
- ✧ Microgravity Science and Technology
- ✧ …

17. Proposal panelist/reviewer:
    - ✧ National Natural Science Foundation of China
    - ✧ Beijing Natural Science Foundation
    - ✧ National High Technology Research and Development Program of China

Service to Peking University

1. 2021-present, Member, Undergraduate Education Committee, Peking University
2. 2020-present, **Associate Dean,** College of Engineering, Peking University (in charge of Enrollment and Education of Undergraduate Students)
3. 2018-2019, **Associate Department Chair,** Department of Mechanics and Engineering Science
4. 2010-2018, Member, Graduate Committee, Department of Mechanics and Engineering Science