


## Dr. Jin Wang - CV (Sept. 2019)

I. Personal details				
Title (Mrs, Ms, Mr)		Mr		
Last name (as in passport)		Wang (王)		
First name (as in passport)		Jin (进)		
Former last name		/		
Date of birth (dd/mm/yyyy)		03/08/1982		
Place of birth		Hebei		
Nationality		Chinese		
Present professional position		Professor (Associate), Master's supervisor, Hebei University of Technology		
II. Academic/professional record in chronological order				
From (mm/yyyy)	Until (mm/yyyy)	Position	Institution, city, country	Degrees/ Interests
12/2017	/	Professor (Associate)	Hebei University of Technology, Tianjin, China	Teaching work (30%) Research work (70%)
09/2016	10/2017	Visiting scholar	Lund University, Lund, Sweden	Heat transfer in nanofluids
09/2013	12/2015	Assistant researcher	Tsinghua University, Beijing, China	Investigation of conjugate heat transfer for gas turbines
11/2012	09/2017	Lecturer	Hebei University of Technology, Tianjin, China	Teaching work (50%) Research work (50%)
06/2012	08/2012	International exchange student	Lund University, Lund, Sweden	Academic communication
09/2008	12/2012	PhD candidate	Xi'an Jiaotong University, Xi'an, China	Doctor degree (Film cooling technology for gas turbines)
09/2006	07/2008	Master degree candidate	Northeastern University, Shenyang, China	Master degree (Electroslag remelting technology in metallurgy)
09/2001	06/2005	Undergraduate	Shenyang University of Chemical Technology, Shenyang, China	Bachelor degree (Major in thermal energy and power engineering)
III. Academic profile				
Research area(s)		Heat and mass transfer in gas turbines, nanofluids, heat exchangers, and reheating furnaces		
When and where PhD degree is obtained		26/12/2012, Xi'an Jiaotong University, Xi'an, China		

#### IV. Proof of scientific excellence

##### a) List of main publications (2010.6-)

###### Publication List (Incomplete):

1. **Jin Wang \***, Ke Tian, Jing Luo, Bengt Sundén, Effect of hole configurations on film cooling performance, *Numerical Heat Transfer, Part A-Applications*, **2019**, 75(11), pp 725-738. (SCI) <https://doi.org/10.1080/10407782.2019.1608762>
2. **Jin Wang \***, Guolong Li, Hengxuan Zhu, Jing Luo, Bengt Sundén, Experimental investigation on convective heat transfer of ferrofluids inside a pipe under various magnet orientations, *International Journal of Heat and Mass Transfer*, **2019**, 132, pp 407-419. (SCI) <https://doi.org/10.1016/j.ijheatmasstransfer.2018.12.023>
3. Zhanxiu Chen, Dan Zheng, **Jin Wang \***, Lei Chen, Bengt Sundén, Experimental investigation on heat transfer characteristics of various nanofluids in an indoor electric heater, *Renewable Energy*, **2019**, In press. <https://doi.org/10.1016/j.renene.2019.09.036> (SCI)
4. Jihao Gu, **Jin Wang \***, Chengying Qi, Xiaojuan Xu, Bengt Sundén, Analysis of a hybrid control scheme in the district heating system with distributed variable speed pumps, *Sustainable Cities and Society*, **2019**, 48, pp 101591. <https://doi.org/10.1016/j.scs.2019.101591> (SCI)
5. **Jin Wang \***, Guolong Li, Jing Luo, Zan Wu, Bengt Sundén, Investigation of mixed convection in an enclosure filled with nanofluids of Al<sub>2</sub>O<sub>3</sub> –water and graphene-ethylene glycol, *Journal of Nanofluids*, **2019**, 8(2), pp 337-348. <https://doi.org/10.1166/jon.2019.1595>
6. Qianqian Li, **Jin Wang \***, Jakov Baleta, Chunhua Min, Bengt Sundén, Effects of gravity and variable thermal properties on nanofluid convective heat transfer using connected and unconnected walls, *Energy Conversion and Management*, **2018**, 171(1), pp 1440-1448. <https://doi.org/10.1016/j.enconman.2018.06.097> (SCI)
7. **Jin Wang**, Milan Vujanović, Bengt Sundén, A review of multiphase flow and deposition effects in film-cooled gas turbines, *Thermal Science*, **2018**, 22(5), pp 1905-1921. <https://doi.org/10.2298/TSCI180108258W> (SCI)
8. Ke Tian, **Jin Wang \***, Chao Liu, Jakov Baleta, Li Yang, Bengt Sundén, Effect of combined hole configuration on film cooling with and without mist injection, *Thermal Science*, **2018**, 22(5), pp 1923-1931. <https://doi.org/10.2298/TSCI171228266T> (SCI)
9. **Jin Wang \***, Ke Tian, Kai Zhang, Jakov Baleta, Bengt Sundén, Effect of spherical blockage configurations on film cooling, *Thermal Science*, **2018**, 22(5), pp 1933-1942. <https://doi.org/10.2298/TSCI171229257W> (SCI)
10. Sahar Abood, **Jin Wang**, Zan Wu, Bengt Sundén, Analysis of natural convection of Cu and TiO<sub>2</sub> nanofluids inside non-conventional enclosures, *Journal of Enhanced Heat Transfer*, **2018**, 25(4-5), pp 315-332. <https://doi.org/10.1615/JEnhHeatTransf.2018021861> (SCI)
11. Jihao Gu, **Jin Wang \***, Chengying Qi, Chunhua Min, Bengt Sundén, Medium-term heat load prediction for an existing residential building based on a wireless on-off control system, *Energy*, **2018**, 152, pp 709-718. <https://doi.org/10.1016/j.energy.2018.03.179> (SCI)
12. Ke Tian, **Jin Wang \***, Chao Liu, Li Yang, Bengt Sundén, Effect of blockage configuration on film cooling with and without mist injection, *Energy*, **2018**, 153, pp 661-670. <https://doi.org/10.1016/j.energy.2018.04.050> (SCI)
13. **Jin Wang**, Qianqian Li, Bengt Sundén, Ting Ma, Pei Cui, Effect of an upstream bulge configuration on film cooling with and without mist injection, *Journal of Environmental Management*, **2017**, 203(3), pp 1072-1079. <https://doi.org/10.1016/j.jenvman.2017.06.055> (SCI)
14. **Jin Wang**, Yiwei Liu, Bengt Sundén \*, Ran Yang, Jakov Baleta, Milan Vujanović, Analysis of slab heating characteristics in a reheating furnace, *Energy Conversion and Management*, **2017**, 149(1), pp 928-936. <https://doi.org/10.1016/j.enconman.2017.04.005> (SCI)
15. **Jin Wang**, QianQian Li, Bengt Sundén, Jakov Baleta, Milan Vujanović, Two-phase flow simulation of mist film cooling with deposition for various boundary conditions, *Numerical Heat Transfer, Part A- Applications*, **2017**, 71(9), pp 895-909. (SCI) <https://dx.doi.org/10.1080/10407782.2017.1326790>
16. Qingfei Bian, **Jin Wang**, Qiuwang Wang, Min Zeng, Numerical investigation of mist/air impingement cooling on rough-ribbed blade leading-edge surface, *Journal of Environmental Management*, **2017**, 203(3), pp 1062-1071. <https://doi.org/10.1016/j.jenvman.2017.05.052> (SCI)

17. Jakov Baleta, Matija Martinjak, Milan Vujanović, Klaus Pachler, **Jin Wang**, Neven Duić, Numerical analysis of ammonia homogenization for selective catalytic reduction application, *Journal of Environmental Management*, **2017**, 203(3), pp 1047-1061. <https://doi.org/10.1016/j.jenvman.2017.04.103> (SCI)
18. **Jin Wang**, Kai Zhang, Ke Tian, Bengt Sundén, Effect of hole blockage configuration on film cooling, Proceedings of the 12th International Green Energy Conference, Xi'an, Shaanxi, China, July 31-August 3, **2017**, IGEC2017-052.
19. Jakov Baleta, Milan Vujanović, **Jin Wang**, Klaus Pachler, Numerical investigation of the spray quenching process for industrial applications, 12th Conference on Sustainable Development of Energy, Water and Environment Systems, Dubrovnik, Croatia, Oct. 4-8, **2017**, SDEWES2017-0706.
20. Qianqian Li, **Jin Wang\***, Ke Tian, Chunhua Min, Bengt Sundén, Effect of an upstream unconnected bulge on film cooling, *Chemical Engineering Transactions*, **2017**, 61, pp 223-228. DOI: [10.3303/CET1761035](https://doi.org/10.3303/CET1761035).
21. Yiwei Liu, **Jin Wang\***, Wei Wang, Ran Yang, Chunhua Min, Bengt Sundén, Effect of the burner arrangement on slab heating characteristics in a reheating furnace, *Chemical Engineering Transactions*, **2017**, 61, pp 97-102. DOI: [10.3303/CET1761014](https://doi.org/10.3303/CET1761014).
22. Ke Tian, **Jin Wang\***, Zhanxiu Chen, Li Yang, Ahmed Guelailia, Bengt Sundén, Effect of hole blockage configurations on film cooling in gas turbine components, *Chemical Engineering Transactions*, **2017**, 61, pp 229-234. DOI: [10.3303/CET1761036](https://doi.org/10.3303/CET1761036).
23. Wei Wang, Hongwei Zheng, **Jin Wang\***, Yuqiong Ma, Shijie Li, Yiwei Liu, Analysis of special-purpose computer on temperature field and optimization design, *Chemical Engineering Transactions*, **2017**, 61, pp 319-324. DOI: [10.3303/CET1761014](https://doi.org/10.3303/CET1761014).
24. **Jin Wang\***, Pei Cui, Milan Vujanović, Jakov Baleta, Neven Duić, Zvonimir Guzović, Effects of surface deposition and droplet injection on film cooling, *Energy Conversion and Management*, **2016**, 125: 51-58. <https://dx.doi.org/10.1016/j.enconman.2016.03.038> (SCI)
25. **Jin Wang**, Pei Cui, Bengt Sundén, Ran Yang, Effects of deposition locations on film cooling with and without a mist injection, *Numerical Heat Transfer, Part A-Applications*, **2016**, 70(10), pp 1072-1086. <https://dx.doi.org/10.1080/10407782.2016.1230395> (SCI)
26. **Jin Wang**, Pei Cui, Bengt Sundén, Milan Vujanović, Effects of Deposition Height and Width on Film cooling, *Numerical Heat Transfer, Part A-Applications*, **2016**, 70(6), pp 673-687. <https://dx.doi.org/10.1080/10407782.2016.1193351> (SCI)
27. **Jin Wang**, Chunwei Gu, Bengt Sundén, Investigations of film cooling and its nonuniform distribution for the conjugate heat transfer passage with a compound inclined angle jet, *Numerical Heat Transfer, Part A-Applications*, **2016**, 69(1), pp 14-30. <https://dx.doi.org/10.1080/10407782.2015.1023156> (SCI)
28. **Jin Wang**, Bengt Sundén, Han Wu, Jian Yang, Chunwei Gu, Qiuwang Wang, Conjugated heat transfer analysis of a film cooling passage with turbulator ribs, *Heat Transfer Research*, **2016**, 47(2), pp 89-103. <https://dx.doi.org/10.1615/HeatTransRes.2015010665> (SCI)
29. **Jin Wang**, Pei Cui, Liting Tian, Chunwei Gu, Qiuwang Wang, Conjugate Heat Transfer Investigation of Trenched Film Cooling Characteristics, *Journal of Engineering Thermophysics*, **2016**, 37(2), pp 409-413.
30. Pei Cui, Yiwei Liu, **Jin Wang\***, Chunhua Min, Yuchen Ren, Effect of trenched cone-shaped hole on conjugate heat transfer, *Journal of Engineering Thermophysics*, **2016**, 37(3), pp 592-596.
31. **Jin Wang**, Chunwei Gu, Bengt Sundén \*. Conjugated heat transfer analysis of a film cooling passage with different rib configurations, *International Journal of Numerical Methods for Heat & Fluid Flow*, **2015**, 25(4), pp 841-860. <https://dx.doi.org/10.1108/HFF-04-2014-0110> (SCI)
32. **Jin Wang**, Bengt Sundén, Min Zeng, Qiuwang Wang, Film Cooling Effects on the Tip Flow Characteristics of a Gas Turbine Blade, *Propulsion and Power Research*, **2015**, 4(1), pp 9-22. <https://dx.doi.org/10.1016/j.jprr.2015.02.003>
33. Liting Tian, Bin Liu, Chunhua Min, **Jin Wang**, Yaling He, Study on the effect of punched holes on flow structure and heat transfer of the plain fin with multi-row delta winglets, *Heat and Mass Transfer*, **2015**, 51(11), pp 1523-1536. <https://dx.doi.org/10.1007/s00231-015-1521-7> (SCI)
34. Han Wu, **Jin Wang**, Yining Wu, Min Zeng, and Qiuwang Wang \*. Numerical study of discharge coefficient in a passage with bleeding holes & internal crossflow, 4th Asian Symposium on Computational Heat Transfer and Fluid Flow, June 2-6, **2013**, Hong Kong, China, ASCHT0274

35. **Jin Wang**, Bengt Sundén, Min Zeng, Qiuwang Wang, Influence of different rim widths and blowing ratios on film cooling characteristics for a blade tip, *ASME Journal of Heat Transfer*, 134(6), 2012, pp 061701 <https://dx.doi.org/10.1115/1.4006017> (SCI)
36. **Jin Wang**, Yong Yu, Min Zeng, Qiuwang Wang, Numerical research on film cooling characteristics of a single hole site at trailing edge, *Journal of Engineering Thermophysics*, 2012, 33(11), pp 1954-1957.
37. **Jin Wang**, Bengt Sundén, Min Zeng, Qiuwang Wang, Effect of upstream wake on passage flow and tip film cooling characteristics, *Proceedings of the ASME Turbo Expo 2012*, June 11-15, 2012, Copenhagen, Denmark, GT2012-68562. <https://dx.doi.org/10.1115/GT2012-68562>
38. **Jin Wang**, Yong Yu, Min Zeng, Qiuwang Wang. Influence of passage flow on tip film cooling effectiveness characteristics, *Proceedings of the ASME Turbo Expo 2012*, June 11-15, 2012, Copenhagen, Denmark, GT2012-68563. <https://dx.doi.org/10.1115/GT2012-68563>
39. **Jin Wang**, Bengt Sundén, Han Wu, Min Zeng, Qiuwang Wang. Experimental investigation on the upstream wake flow characteristics near the blade leading edge, *5th International Symposium on Fluid Machinery and Fluids Engineering*, October 24-27, 2012, Jeju, Korea
40. **Jin Wang**, Min Zeng, Qiuwang Wang, Numerical research on heat transfer characteristics of a single film cooling hole site, *Journal of Engineering Thermophysics*, 2011, 32(10), pp 1761-1764.
41. **Jin Wang**, Min Zeng, Qiuwang Wang. Influence of different rim widths on leakage flow, *Proceedings of the ASME Turbo Expo 2011*, June 6-10, 2011, Vancouver, Canada. <http://dx.doi.org/10.1115/GT2011-45693>
42. **Jin Wang**, Dahai Zhang, Min Zeng, Qiuwang Wang. Influence of different shoulder widths on film cooling characteristics on GE-E3 blade tip, *Proceedings of the ASME Turbo Expo 2010*, June 14-18, 2010, Glasgow, Scotland, UK. <https://dx.doi.org/10.1115/GT2010-22382>

b) Public and Professional Service

1. **Keynote Speech:**

**Jin Wang**, Bengt Sundén, Min Zeng, Qiuwang Wang \*. Investigation on tip leakage flow with and without film cooling for a turbine blade, 22nd National and 11th ISHMT-ASME (Heat and Mass Transfer Conference), December 28-31, 2013, IIT Kharagpur, India

2. **SCI Journal Reviewer:**

12/2015 – Present, Reviewer, *Energy Conversion and Management*  
 11/2015 – Present, Reviewer, *Journal of Porous Media*  
 11/2015 – Present, Reviewer, *Nuclear Engineering and Technology*  
 09/2013 – Present, Reviewer, *Applied Thermal Engineering*  
 09/2013 – Present, Reviewer, *International Journal of Thermal Sciences*  
 07/2013 – Present, Reviewer, *Heat Transfer Research*

c) Prizes and awards

1. Honour (2016 and 2018): **Outstanding reviewer** for Applied Thermal Engineering
2. Honour (2015): **Outstanding reviewer** for Energy Conversion and Management
3. Award (2014 and 2016): 2013-2014 and 2015-2016 Teacher awards for **Excellent Teaching Quality** (Hebei University of Technology)
4. Award (2012): Scholarship of Blue-Sea Science & Technology (Xi'an Jiaotong University)

d) Patents - **1st** Inventor

1. A Slot Structure for Improving Film Cooling on the Downstream Wall (ZL201510069092.3)  
一种提高开槽气膜孔下游壁面气膜冷却效率的结构 (ZL201510069092.3)
2. A Cover Structure for Improving Film Cooling on the Downstream Wall (ZL201510706141.X)  
一种提高下游横向气膜冷却效率的盖式结构 (授权号 ZL201510706141.X)
3. An Upstream Structure for Improving Cooling Effectiveness of Components (ZL201510993385.0)  
一种提高组件外部冷却效果的上游结构 (授权号 ZL201510993385.0)
4. A Novel Structure for Film Cooling (ZL201610228725.5)  
一种新型气膜冷却开槽结构 (授权号 ZL201610228725.5)
5. A Cover Structure for Improving Film Cooling on the Downstream Wall (ZL201520837160.1)  
提高开槽孔下游气膜冷却效率的盖式结构 (ZL201520837160.1)
6. An Upstream Structure for Improving Film Cooling outside the components (ZL201521095360.0)

- 提高组件外部冷却效果的上游结构 (ZL201521095360.0)
7. A Structure for Improving Film Cooling Effectiveness (ZL201620299735.3)  
一种提高气膜冷却效率的结构 (ZL201620299735.3)
  8. A Hole Structure for Improving Downstream Cooling Effectiveness (ZL201720008263.6)  
一种提高下游冷却效果的孔型结构 (授权号 ZL201720008263.6)
  9. A Waste Heat Utilization Device for Air-conditioning Machine (ZL201621138008.5)  
一种空调外机废热利用装置 (授权号 ZL201621138008.5)

e) Software copyrights - **1st** Owner

Calculation Software of Two Coupled Designs for Heat Exchangers with Correcting Function (Registration No. 2015SR091735)  
带纠错功能的两种换热器耦合设计计算软件 (2015SR091735)

**V. Additional qualifications**

**Teaching courses:**

*Pumps and Fans, Engineering Thermodynamics, Measurement Technologies for Power Machineries, New Energy Utilizations, Heat Transfer.*

Proficiency in English Language, both written and spoken

**Supervisor/Co-supervisor:** 1 PhD and 7 Master students

**VI. Granted projects/third party projects and important research collaboration**

Project title	From - Until	Type of collaboration	Institution, city, country	Financial value of projects
Research on heat transfer mechanism and prediction model of microscale particle deposition (KLTFS2018KFJJ01)	12/2018-11/2020	<b>Project Leader</b>	Key Laboratory of Thermo-Fluid Science and Engineering, Xi'an Jiaotong University	80,000 CNY
Mechanism Research of Integrated Cooling Characteristics Based on the Deposition Adhesion Model and Conjugated Heat Transfer for Gas Turbines (51606059)	01/2017-12/2019	<b>Project Leader</b>	National Natural Science Foundation of China	200,000 CNY
Research of film cooling characteristics on thermal barrier coating surface deposition for gas turbine (E2016202266)	01/2016-12/2018	<b>Project Leader</b>	Natural Science Foundation of Hebei Province of China	40,000 CNY
Coupled Heat Transfer Mechanism of Film Cooling Characteristics Based on Thermal Barrier Coatings Failure (2015004)	12/2015-12/2017	<b>Project Leader</b>	The Scientific Innovation Foundation for Excellent Young Scientists (Hebei University of Technology)	200,000 CNY
Numerical Simulations of Gas Water Heater for Resident Use	09/2014-09/2016	<b>Project Leader</b>	Haier Group, China	80,000 CNY
Investigations on Coupled Fluid-Thermal-Structural Problems of Gas Turbine Blades Based on Meshless Method (2014M560966)	09/2014-12/2015	<b>Project Leader</b>	The Post-doctoral Science Fund of China	50,000 CNY

Detection of Motor vehicle headlamps with double-lights inspection (2014-27)	12/2013-12/2014	<b>Project Leader</b>	The Post-doctoral Fund of Human Resources and Social Security Bureau of Tianjin, China	30,000 CNY
High precision discontinuous Galerkin method and its application in the mechanical impeller internal flow and heat transfer simulation research (51276093)	01/2012-12/2016	<b>Major Undertaker</b>	Natural Science Foundation of China	800,000 CNY
Investigation on heat/mass transfer enhancement and reliability under high-temperature conditions (51120165002)	01/2012-12/2016	<b>Participant</b>	Natural Science Foundation of China	3,200,000 CNY

### Introduction:

Prof. (Associate) Jin Wang, was born in Tangshan city near the Beijing city in 1982. He got a bachelor degree in thermal energy and power engineering in June 2005. After three years, he obtained a Master degree based on the research of electroslag remelting technology in metallurgy from Northeastern University, China. Then, he studied at Xi'an Jiaotong University as a PhD candidate since 2008. In June 2009, he stepped into the field of film cooling technology for gas turbines. He was interested in the tip leakage flow for gas turbine both numerically and experimentally, and he attended the proceedings of ASME Turbo Expo for continuous three years (2010-2012, 4 papers). He focused on PIV measurement technology on the blade tip zone and near the blade trailing edge. Since Dec. 2012, he worked at Hebei University of Technology, Tianjin, China. During Sept. 2013 – Dec. 2015, he worked as a Research Associate at Tsinghua University (Beijing, China) for a postdoctoral research (conjugate heat transfer on gas turbine blades). During Sept. 2016 - Oct. 2017, as a visiting scholar, he focused on heat transfer of nanofluids at Lund University, Sweden. He got the Professor (associate) position in Dec. 2017. In addition, he also focused on building energy technologies.

His interests include cooling technologies for gas turbines, heat transfer enhancement using nanofluids, building energy technologies, combustion in a furnace, etc. In addition, he was the Co-chair of *the 12th Conference on Sustainable Development of Energy, Water and Environment Systems conference* (Session: Heat and mass transfer modelling). He is one of the Scientific Advisory Board of *the 1st Latin American Conference on Sustainable Development of Energy, Water and Environment Systems*. He is also the reviewer of many Journals including *Energy Conversion and Management*, *Applied Thermal Engineering*, *Heat Transfer Research*, *International Journal of Thermal Sciences*, *Nuclear Engineering and Technology*, *Journal of Porous Media*, etc. He was the recipient of many research awards including the Outstanding Reviewer Awards by the editors of *Energy Conversion and Management* and *Applied Thermal Engineering*. He has obtained several projects or funds provided by Chinese government or Hebei province of China or Chinese companies. He has published more than 40 research papers in English. More information can be found in links:

[https://www.researchgate.net/profile/Jin\\_Wang31](https://www.researchgate.net/profile/Jin_Wang31) (English)

<http://see.hebut.edu.cn/szdw/fjs/65041.html> (Chinese)

Dr. Jin Wang

Sept., 2019