

CURRICULUM VITAE

Dr. Hongwei WU *BEng (1st Class Hons), MSc, PhD, FHEA, PGCert, CEng, MIMechE*

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[http://researchprofiles.herts.ac.uk/portal/en/persons/hongwei-wu\(917b22b5-2228-4961-a480-03149ae43905\).html](http://researchprofiles.herts.ac.uk/portal/en/persons/hongwei-wu(917b22b5-2228-4961-a480-03149ae43905).html)

Creative and highly motivated researcher with a PhD in Mechanical & Aerospace Engineering specialising in thermodynamics, heat transfer, two-phase flow, fluid mechanics, energy and thermal management, process simulation and control.

- Expert in the field of enhancement techniques in heat transfer (gas turbine and cooling technology)
- Expert in the fields of two-phase systems, heat exchangers, loop heat pipe, renewable energy technology, energy system, heat recovery and thermal management
- Extensive background in experimental heat transfer and fluid dynamics including the design and commissioning of several thermal-fluids experimental test facilities
- Expertise in analytical and computational heat transfer and fluid dynamics (CFD), Turbulence modeling
- Proven track record in generating both industrial and government funding
- Extensive industrial collaboration including technical and forensic consulting activity
- Proven leadership and teamwork spirit
- Extensive university-level teaching experience
- Supervision experience at both the undergraduate and postgraduate levels
- Excellent interpersonal, written and presentation skills

EDUCATION

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| 2004 | PhD | Mechanical and Aerospace Engineering , Beihang University (Formerly Beijing Univ. of Aeronautics and Astronautics) & Hong Kong Univ. of Science and Technology, China |
| 2000 | MSc | (Distinction) Mechanical and Aerospace Engineering , Beihang University, China |
| 1998 | BEng | (1 st Class Honours) Mechanical and Aerospace Engineering , Beihang University, China |

EMPLOYMENT HISTORY

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| 2017– | Senior Lecturer , School of Engineering and Technology, University of Hertfordshire, UK |
| 2015–2017 | Senior Lecturer , Mechanical and Construction Engineering, Faculty of Engineering and Environment, Northumbria University, Newcastle upon Tyne, UK |
| 2013–2015 | Lecturer , Mechanical Engineering, Institute of Engineering and Energy Technologies, School of Engineering and Computing, University of the West of Scotland, UK |
| 2012–2013 | Research Fellow , School of Chemical Engineering, University of Birmingham, UK |
| 2009–2012 | Research Fellow , Mechanical, Aerospace & Civil Engineering, College of Engineering, Design and Physical Sciences, Brunel University London, UK |
| 2007–2009 | Associate Professor , National Laboratory for Aeronautics and Astronautics, School of Energy and Power Engineering, Beihang University, Beijing, China |
| 2006–2007 | Post-Doctoral Research Fellow , University of Alberta, Edmonton, Canada |
| 2004–2006 | Post-Doctoral Research Fellow , University of British Columbia, Canada |

PROFESSIONAL ACTIVITIES

Peer Review Activities for Funding Application

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| 2016 | Peer review for UK Engineering and Physical Sciences Research Council (EPSRC), UK |
| 2014 | Peer review for UK Engineering and Physical Sciences Research Council (EPSRC), UK |

External Examiner (UK and Overseas)

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| 2017–2020 | External Panel Member for Mechanical Engineering module and award (Level 4 & 5) at Teesside University |
| 2016 | Utilisation of Heat and Organic Wastes for Energy Recovery in the Industry, Newcastle University, UK [PhD] |
| 2016 | Sustainable Industry: Utilisation of Organic Wastes from Production Process for Energy Supply, Newcastle University, UK [MPhil] |

2015 Numerical Study of Mixing of Different Newtonian and Non-Newtonian Fluids in Stirred Tank, National Institute of Technology, Rourkela, India [PhD]

Conference Organisation and Chair/Co-Chair

2017 Organizing Committee Member of the 3rd World Conference on Applied Science, Engineering and Technology (WCASET17), Singapore
2015 Organizing Committee Member of the 8th International Conference on Sustainable Energy & Environmental Protection, Paisley, UK
2012 Chair of Session “Optimization and Operation Performance of Energy Systems”, 4th International Conference on Applied Energy, Suzhou, China
2012 Co-Chair of Session “Numerical Modeling in Energy Application”, 4th International Conference on Applied Energy, Suzhou, China

Invited and Keynote Lectures

2016 Invited Speaker, School of Aerospace, Tsinghua University, Beijing, China
2016 Invited Speaker, National Laboratory of Aerospace, Beihang University, Beijing, China
2016 Invited Talk, Southwest Jiaotong University, Chengdu, China
2016 Invited Talk, Henan Polytec Universtiy, China
2016 Invited Talk, North China Electric Power University, China
2016 Invited Talk, Changchun Institute of TEchnology
2015 Keynote speaker, 12th Graduate Research Workshop, Beihang University, Beijing, China
2014–2016 Invited Lecture, Hebei University of Science and Technology, China
2010 Invited Speaker, “Energy Consumption in Industrial Continuous Frying Process”, Heat Exchanger Action Group (HEXAG) meeting, University of Newcastle, UK
2006 Invited Speaker, “PSV Interface Detection: Dynamic Modeling and Simulation”, Syncrude Canada Ltd., Edmonton, Canada

Conference Technical Program Committee (TPC)

2016 Member of Technical Program Committees. Spring World Congress on Engineering and Technology (SCET), April 17-19, Suzhou, China
2013 Member of International Scientific Committee. International Conference on Sustainable Design, Engineering and Construction (ICSDEC), September 19-21, Hunan, China
2013– Member of Technical Program Committees. International Conference on Manufacturing, Optimization, Industrial and Material Engineering, Indonesia
2013 Member of Technical Program Committees. International Conference on New Technologies of Chemical Engineering (NTCE), August 16-18, Beijing, China

Other Professional Activities

2016 **Guest Editor:** Special Issue on *Thermal Storage/Management System With PCMs for Building*, Advances in Mechanical Engineering, SAGE Journals. [Call for Papers]
2016 **Guest Editor:** Special Issue on *Storage and Conversion of Building Renewable Energy*, Journal of Engineering, Hindawi. [Call for Papers]
2016– **Associate Chair Professor**, National Laboratory for Aeronautics and Astronautics, Beihang University, Beijing, China
2015– **Adjunct Professor**, Faculty of Material and Energy, Guangdong University of Technology, Guangzhou, China
2009– **Adjunct Associate Professor**, School of Energy and Power Engineering, Beihang University, Beijing, China

EXTERNAL CONSULTANCY

2015–2016 Scotlab, Glasgow, UK, (Product concept design)
2014–2016 Filament PD, Glasgow, UK, (Product design)
2014–2016 TWS Europe Ltd, UK, (Product design for industrial battery manufacture)
2009–2012 Flo-Mech Ltd., Peterborough, UK
2007–2009 Shenyang Engine Design & Research Institute (SAeRI), Shenyang, China
2006–2007 Syncrude Canada Ltd., Canada

MEMBERSHIP OF PROFESSIONAL ASSOCIATIONS

Membership

2017– Member of Industry Advisory Group, University of Hertfordshire, UK
2017– Member of Energy Storage Research Network (ESRN), UK

- 2016– Engineering Council (UK): Registered **Chartered Engineer (CEng)**, **MIMechE (Registrant Number: 636120; Membership Number: 80298810)**
- 2016– **UK Fellow of HEA** (Recognition reference: **PR101994**) and **PGCert in Higher Education**
- 2016– Member of **EPSRC Associate Peer Review College**, UK
- 2010– Member of **Sustainable Innovation in Refrigeration and Air Conditioning**, UK
- 2010– Member of **Process Intensification Network, Heat Exchanger Action Group**, UK
- 2009– Member of **Process Industry Thermal Energy Management (PRO-TEM)**, UK

HONORS AND AWARDS

- 2017 **IMEchE New Member Award and Recognition**, Institution of Mechanical Engineers, London, UK
- 2007 **“Sky New Talent” Prize** (Only 1 for each School each year), Beihang University, China
- 2007 **Excellent Staff Teaching Training Award** (5 in total Univ.), Beihang University, China
- 2006 **Top 4 Distinguished PhD Dissertation** (Only 1 for each School each year), Beihang University, China
- 2003–2004 **Distinguished PhD Thesis Research Scholarship** (Only 1 for each School each year), Beihang University, China
- 2002 **Huawei First-Class Scholarship** (10 in total, 2 for 1st class), Beihang University, China
- 2000 **GuangHua First-Class Scholarship** (10 in total Univ.), Beihang University, China

Academic Visitor/Postgraduate/Undergraduate Supervision:

Current PhD students:

- Mr. Lucky Obi, Started Oct. 2017. (First supervisor)
- Mr. Mohammad Ismail, Started Oct. 2016. (Second supervisor)
- Mr. Tolulope Kode., Started Apr. 2015. (Second supervisor)
- Mr. Okechukwu N. Ikegwuonu., Started Oct. 2015. (Second supervisor)
- Mrs. Afaf Aldukhial. Started Oct. 2015. (Second supervisor)

Current External Supervision of PhD students:

- Mr. Yubing Yuan. “Two-stage organic Rankine cycle for waste heat recovery”. Started Sep. 2015.
- Miss. Mengyao Leng. “Aircraft Ice Accretion Prediction”. Started Sep. 2013.

Academic Visitor:

- 2016 Prof. Kai Du, School of Energy and Environment, Southeast University, China
- 2016 Prof. Tao Zou, Shenyang Institute of Automation, Chinese Academy of Sciences, China
- 2016 Prof. Baocang Ding, Department of Automation, School of Electronic and Information Engineering, Xi’an Jiaotong University, Xi’an, China
- 2014–2015 Prof. Xiangyun Liu, Faculty of Materials and Energy, Guangdong University of Technology, China

Visiting PhD students:

- 2015–2016 Mr. Yangpeng Liu, School of Energy and Power Engineering, Beihang University, Beijing, China

Completed PhD students:

- 2016 Dr. Dongdong Liu. “Experimental study and CFD simulation of Unsteady Flow within a Rotating Disk Cavity”. [Now RA-Nanyang Technological University, Singapore]
- 2016 Dr. Yangpeng Liu. “Experimental study and CFD simulation of Flow and Heat Transfer of Microchannel”. [Now Senior Engineer-Avic Commerical Aircraft Engine Co., LTD., Shanghai, China]
- 2015 Dr. Liyao Xie. “High Gravity Influence on Boiling Heat Transfer in Helical Coils”. [Now RA-The University of Tokyo, Japan]
- 2014 Dr. Chao Wang. “Supercooled Large Droplets Dynamics and Icing Accretion Mechanism”. [Now RA-Tsinghua Univ., Beijing, China]
- 2009 Dr. Zhenming Zhao. “Study on Film Cooling Performance on the Rotating Curved Surfaces”. [Lecturer – Beihang University, Beijing, China]
- 2009 Dr. Bin Yang. “Mechanism Study on the Coolant Deflection and Turbulent Mixing Progress of Film Cooling Phenomenon on a Rotating Flat Blade Model”. [Senior Engineer, China Aerospace Science and Technology Corporation, Beijing, China]

Supervision Master, Final Year Individual and Group Projects with 40+ students at UWS and Northumbria University.

RESEARCH FUNDING

Applications for funding in preparation/submitted

- 2017 **Exploring the Flow and Turbulence Structure around Circular Cylinders under Rotating Conditions: Simulations, Experiments and Theoretical Analysis.** [PI] (*To be submitted to EPSRC*)

Current Research Activities

- 2017 Internal Funding, University of Hertfordshire, £10K. [PI]
2016–2017 **Associate Chair Professorship**, *Funded by the National Laboratory for Aeronautics and Astronautics, Beihang University, Beijing, China, 2016-2017, £6K.* [PI]
2016–2019 **PhD Studentship**, *Funded by Northumbria University.* [PI]
2016–2017 **Instruments for setting up a microchannel test rig.** *Funded by the Capex Bid from Northumbria University, £13,120.* [PI]

Selected Completed Research Projects

- 2016 **Investigation on the evaluation of turbine cavity with protrusion.** *UoA15 Flexible Fund from Northumbria University, £1550.* [PI]
2015 **New Staff Funding Support**, *Funded by Northumbria University, £2K.* [PI]
2014 **Experimental Investigation and Optimisation of Fluid Flow and Heat Transfer in Y-fractal-link Microchannel-based Heat Sinks.** *Funded by The Royal Society (RG130646), UK, £13.5K.* [PI]
2014 **PIV Measurement and CFD Simulations of the Unsteady Flow within a Rotating Disk Cavity.** *Funded by the Carnegie Trust (No.31729), UK, £2,030.* [PI]
2014 **Numerical Simulation of Two-phase Flow in Small Tubes.** *Prof. X. Liu, Visiting Professor, Funded by the Scholarship of Guangdong University of Technology, £10K.* [UK Academic host][PI]
2012–2013 **Development of a Software Tool for Prediction of Ready-to-eat Product Shelf Life, Quality and Safety.** *Funded by European Commission within the Seventh Framework, FP7-KBBE-2011-5, [Main Investigator]*
2009–2012 **Optimising Thermal Energy Recovery, Utilization and Management in the Process Industries.** *Funded by the EPSRC, EP/G059799/1, £511,628. UK, [Main Investigator]*
2008–2009 **Unsteady Analysis of Flow and Heat Transfer in Rotating Cavities.** *Funded by the Aviation Technology Innovation Foundation, China, 08B51004, £7K.* [PI]
2007–2008 **Cooling System Optimisation of a Gas Turbine Based Compressor.** *Funded by the “Fanzhou” Youth Science Technology, China, 20070401, £6K.* [PI]
2007–2009 **Study on Heat Transfer and Coke Deposition of RP-3 Aviation Kerosene Fuel.** *Funded by the National Natural Science Foundation of China (NSFC), 50676005, £28K.* [CI]
2006–2007 **Soft Sensor Model Development for Interface Level Detection in the Primary Separation Vessel.** *Funded by the Natural Science and Engineering Research Council of Canada (NSERC) & Syncrude Canada Ltd., £88K.* [Main Investigator]

REVIEWER OF ACADEMIC MANUSCRIPTS

Frequent referee for major journals in thermal engineering such as:

- *Applied Energy*
- *International Journal of Heat and Mass Transfer*
- *International Journal of Heat and Fluid Flow*
- *Applied Thermal Engineering*
- *International Journal of Thermal Sciences*
- *Powder Technology*
- *ASME J. Engineering for Gas Turbine and Power*
- *ASME Journal of Heat Transfer*
- *Journal of Fluid Mechanics*
- *Energy*
- *Chemical Engineering Science*
- *Energy and Buildings*
- *Building and Environment*
- *Computers & Fluids*
- *ASME Journal of Turbomachinery*
- *International Journal of Multiphase Flow*

PUBLICATIONS (*Corresponding author)

Selected Peer-reviewed Journal Articles

1. (2017) Zhai, L., Xu, G., Quan, Y., Song, G., Dong, B., ***Wu, H.**, “Numerical Analysis of the Axial Heat Conduction with Variable Fluid Properties in a Forced Laminar Flow Tube” *International Journal of Heat and Mass Transfer*, 114:238-251
2. (2017) Yuan, Y., Xu, G., Quan, Y., ***Wu, H.**, Song, G., Gong, W., Luo, X., “Performance Analysis of a New Two-stage Organic Rankine Cycle for Waste Heat Recovery” *Energy Conversion and Management*, 148:305-316
3. (2017) Gao, X., Yuan, Y., Cao, X., **Wu, H.**, Zhao, X., “Coupled Cooling Method and Application of Latent Heat Thermal Energy Storage Combined with Pre-cooling of Envelope: Sensitivity Analysis and Optimization” *Process Safety and Environmental Protection*, 107:438-453
4. (2017) Shi, S., Xie, Y., Li, M., Yuan, Y., Yu, J., ***Wu, H.**, Liu, B., Liu, N., “Non-steady Experimental Investigation on an Integrated Thermal Management System for Power Battery with Phase Change Materials” *Energy Conversion and Management*, 138:84-96
5. (2017) Li, H., Huang, H., Xu, G., Wen, J., **Wu, H.**, “Performance Analysis of a Novel Compact Air-air Heat Exchanger for Aircraft Gas Turbine Engine using LMTD method” *Applied Thermal Engineering*, 116:445-455
6. (2017) Xie, Y., Gilmour, M.S., Yuan, Y., Jin, H., ***Wu, H.**, “A Review on House Design with Energy Saving System in the UK” *Renewable and Sustainable Energy Reviews*, 71:29-52
7. (2017) Deng, Y., **Wu, H.**, Su, F., “Combustion and Exhaust Emission Characteristics of Low Swirl Injector” *Applied Thermal Engineering*, 110:171-180
8. (2017) Chen, M., Xie, Y., ***Wu, H.**, Shang, S., Yu, J., “Modeling Solubility of Nitrogen in Clean Fire Extinguishing Agent by Peng-Robinson Equation of State and a Correction of Henry’s Law Constants” *Applied Thermal Engineering*, 110:457-468
9. (2017) Yuan, Y., Gao, X., **Wu, H.**, Zhang, Z., Cao, X., Yu, N., “Coupled Cooling Method and Application of Latent Heat Thermal Energy Storage Combined with Pre-cooling of Envelope: Method and Model development” *Energy*, 119:817-833
10. (2016) Liu, D., Tao, Z., Luo, X., Kang, W., ***Wu, H.**, Yu, X., “Investigation on the Impact of Protrusion Parameter on the Efficiency of Converting Additional Windage Loss for Ingress Alleviation in Rotor-Stator System” *ASME Journal of Engineering for Gas Turbines and Power*, 138(11):112604-112604-9
11. (2016) Zhu, J., Wang, K., Jiang, Z., ***Wu, H.**, Wang, D., Lin, F., Li, Y., “Experimental Study of the Energy and Exergy performance for a Pressurized Volumetric Solar Receiver” *Applied Thermal Engineering*, 104:212-221
12. (2016) Liu, X., Zhang, X., Lu, T., Mahkamov, K., ***Wu, H.**, Mirzaeian, M., “Numerical Simulation of Sub-cooled Boiling Flow with Fouling Deposited inside Channels” *Applied Thermal Engineering*, 103:434-442
13. (2016) Wang, C., Chang, S., Leng, M., ***Wu, H.**, Yang, B., “A Two-dimensional Splashing Model for Investigating Impingement Characteristics of Supercooled Large Droplets” *International Journal of Multiphase Flow*, 80:131-149
14. (2016) Jiang, Z., Wang, K., ***Wu, H.**, Wang, Y., Du, J., “A Two-dimensional Analytical Model for Prediction of the Radiation Heat Transfer in Open-cell Metal Foams” *Applied Thermal Engineering*, 93:1273-1281
15. (2016) Liu, D., Tao, Z., Luo, X., ***Wu, H.**, Yu, X., “Development of a New Factor for Hot Gas Ingestion Through Rim Seal” *ASME Journal of Engineering for Gas Turbines and Power*, 138:072501-1.
16. (2016) Chang, S., Leng, M., ***Wu, H.**, Thompson, J.M. “Aircraft Ice Accretion Prediction Using Neural Network and Wavelet Packet Transform.” *Aircraft Engineering and Aerospace Technology*, 88(1):128-136.
17. (2015) Wang, K., ***Wu, H.**, Wang, D., Tong, Z., Olabi, A. “Experimental Study on a Coiled Tube Solar Receiver under Variable Solar Radiation Condition”, *Solar Energy*, 122:1080-1090.
18. (2015) Zhu, J., Wang, K., ***Wu, H.**, Wang, D., Du, J., Olabi, A. “Experimental Investigation on the Energy and Exergy Performance of a Coiled Tube Solar Receiver.” *Applied Energy*, 156:519-527.
19. (2015) Xie, Y., Zhang, J., Yu, Y., Xie, L., **Wu, H.**, Zhang, H., Gao, H. “Experimental Investigation On the Operating Characteristics of a Dual Compensation Chamber Loop Heat Pipe Subjected to Acceleration Field.” *Applied Thermal Engineering*, 81:297-312.
20. (2015) Wang, C., Chang, S., **Wu, H.** “Lagrangian Approach for Simulating Supercooled Large Droplets’ Impingement Effect.” *AIAA Journal of Aircraft*, 52(2):524-537.
21. (2015) Wang, C., Chang, S., **Wu, H.**, Ding, L., Thompson, J.M. “Theoretical Modeling of Spray Drop Deformation and Breakup in the Multimode Breakup Regime.” *Atomization and Sprays*, 25(10):857-

22. (2014) Luo, X., Wang, L., Zhao, X., Xu, G., ***Wu, H.** “Experimental Investigation of Heat Transfer in a Rotor-Stator Cavity with Cooling Air Inlet at Low Radius.” *International Journal of Heat and Mass Transfer*, 76:65-80.
23. (2014) Luo, X., Zhao, X., Wang, L., ***Wu, H.**, Xu, G. “Flow Structure and Heat Transfer Characteristics in Rotor-Stator Cavity with Inlet at Low Radius.” *Applied Thermal Engineering*, 70:291-306.
24. (2014) Luo, X., Han, G., ***Wu, H.**, Wang, L., Xu, G. “Experimental Investigation of Pressure Loss and Heat Transfer in a Rotor-Stator Cavity with Two Outlets.” *International Journal of Heat and Mass Transfer*, 78:311-320.
25. (2014) Luo, X., Liu, D., ***Wu, H.**, Tao, Z. “Particle Image Velocimetry Measurement and Computational Fluid Dynamic Simulations of the Unsteady Flow within a Rotating Disk Cavity.” *ASME Journal of Engineering for Gas Turbines and Power*, 136:112601-1.
26. (2014) Chen, Q., Yang, R., Zhao, B., Li, Y., Wang, S., **Wu, H.**, Zhuo, Y, Chen, C. “Investigation of Heat of Biomass Pyrolysis and Secondary Reactions by Simultaneous Thermogravimetry and Differential Scanning Calorimetry.” *Fuel*, 134:467-476.
27. (2014) Wang, C., Chang, S., **Wu, H.**, Xu, J. “Modeling of Drop Breakup in the Bag Breakup Regime.” *Applied Physics Letters*, 104 (15):154107.
28. (2014) Xie, L., Xie, Y., **Wu, H.**, Yu, J. “High Gravity Influence on Boiling Heat Transfer in Helical Coils.” *International Journal of Heat and Mass Transfer*, 73:706-715.
29. (2013) **Wu, H.**, Tassou, SA., Karayiannis TG. “Modelling and Control Approaches for Energy Reduction in Continuous Frying Systems.” *Applied Energy*, 112:939-948.
30. (2013) **Wu, H.**, Tassou, SA., Karayiannis TG., Jouhara, H. “Analysis and Simulation of Continuous Food Frying Processes.” *Applied Thermal Engineering*, 53(2):332-339.
31. (2013) Wang, A., ***Wu, H.**, Tang, H., Liu, Y., Liang, X. “Development and Testing of a New Thrust stand for Micro-thrust Measurement in Vacuum Conditions.” *Vacuum*, 91:35-40.
32. (2013) **Wu, H.**, Karayiannis, TG., Tassou, SA. “A Two-dimensional Frying Model for the Investigation and Optimisation of Continuous Industrial Frying System.” *Applied Thermal Engineering*, 51:926-936.
33. (2012) Aneke, M., Agnew, B., Underwood, C., **Wu, H.**, Masheiti, S. “Power Generation from Waste Heat in a Food Processing Application.” *Applied Thermal Engineering*, 36:171-180.
34. (2012) **Wu, H.**, Jouhara, H., Tassou, SA., Karayiannis, TG. “Modelling of Energy Flows in Potato Crisp Frying Processes,” *Applied Energy*, 89(1):81-88.
35. (2010) Yang, B., Xu, G., Tao, Z., Ding, S., **Wu, H.** “Numerical Simulation on a Film-cooled Rotating Model with 30° Injection Holes,” *Journal of Aerospace Power*, 25(7):1443-1453.
36. (2009) Tao, Z., Zhao, Z., Ding, S., Xu, G., ***Wu, H.** “Suitability of Three Different Two-equation Turbulent Models in Predicting Film Cooling Performance Over a Rotating Blade,” *International Journal of Heat and mass Transfer*, 52(5-6):1268-1275.
37. (2009) Xu, G., Yang, B., Tao, Z., Zhao, Z., **Wu, H.** “Local Heat Transfer Measurements on a Rotating Flat Blade Model with a Single Film Hole,” *Progress in Natural Science: Materials International*, 19(3):321-330.
38. (2009) Xu, G., Yang, B., Tao, Z., Ding, S., **Wu, H.** “Numerical Study of Film-Cooling Performance on a Rotating Model,” *AIAA Journal of Thermophysics and Heat Transfer*, 23(1):129-138.
39. (2009) Tao, Z., Zhao, Z., Ding, S., Xu, G., Yang, B., ***Wu, H.** “Heat Transfer Coefficients of Film Cooling on a Rotating Turbine Blade Model: Part I. Effect of Blowing Ratio,” *ASME Journal of Turbomachinery*, 131(4):041005.
40. (2008) Tao, Z., Yang, X., Ding, S., Xu, G., ***Wu, H.**, etc. “Experimental Study of Rotation Effect on Film Cooling over the Flat Wall with a Single Hole,” *Experimental Thermal and Fluid Science*, 32(5):1081-1089.
41. (2007) Avramidis, S., **Wu, H.** “Artificial Neural Network and Mathematical Modelling Comparative Analysis of Nonisothermal Diffusion of Moisture in Wood,” *Holz als Roh-und Werkstoff*, 65(2):89-93.
42. (2006) **Wu, H.**, Avramidis, S. “Prediction of Timber Kiln Drying Rates by Neural Networks,” *Drying Technology*, 24(12):1541-1545.
43. (2006) Zhu, W., Zhou, N., **Wu, H.** “Multiplex Shear Stress-induced Nucleation in Dynamic Microcellular Foaming Process,” *Polymer Engineering and Science*, 46(12):1728-1738.
44. (2005) Tao, Z., **Wu, H.**, Chen, G., Deng, H. “Numerical Simulation of Conjugate Heat and Mass Transfer Process within Cylindrical Porous Media with Cylindrical Dielectric Cores in Microwave Freeze-drying,” *International Journal of Heat and Mass Transfer*, 48(3/4):561-572.
45. (2004) **Wu, H.**, Tao, Z., Chen, G., etc. “Conjugate Heat and Mass Transfer Process within Porous Media

with Dielectric Cores in Microwave Freeze-drying,” *Chemical Engineering Science*, 59(14):2921-2928.

46. (2004) **Wu, H.**, Tao, Z., Gao, P., Chen, G. “Ice Crystal Sizes and Their Impact on Microwave Assisted Freeze Drying,” *Chinese Journal of Chemical Engineering*, 12(6):831-835.

Selected Book Section

1. (2008) Tao, Z., Zhao, Z., Ding, S., Xu, G., Yang, B., ***Wu, H.** “Heat Transfer Coefficients of Film Cooling on a Rotating Turbine Blade Model: Part I. Effect of Blowing Ratio,” *In: ASME Proceedings: Heat Transfer. American Society of Mechanical Engineers*, pp.521-531. ISBN 978-0-7918-4314-7
2. (2008) ***Wu, H.**, Xu, G., Yang, B., Tao, Z., “Heat Transfer Coefficients of Film Cooling on a Rotating Turbine Blade Model: Part II. Effect of Reynolds Number and Rotation Number,” *In: Proceedings of the ASME Turbo Expo 2008: Power for Land, Sea, and Air. American Society of Mechanical Engineers*, New York, pp. 533-541. ISBN: 978-0-7918-4314-7
3. (2008) Xu, G., Yang, B., Tao, Z., Ding, S., ***Wu, H.** “Theoretical Analysis of Rotating Film Cooling Mechanism: Part II. A New Dimensionless Parameter to Describe the Coolant Deflection Phenomenon Near the Pressure Surface,” *In: Proceedings of the 12th International Symposium on Transport Phenomenon and Dynamics of Rotating Machinery 2008 (ISROMAC-12). ISROMAC-12, New York, pp. 697-702. ISBN: 9781605604879*

Selected International Conference Proceedings

1. (2016) Yang, B., Chang, S., Zhao, Y., Leng, M. “Heat Transfer Characteristic Study of Piccolo Tube Anti-icing System Using a 3-D Transient Liquid Crystal Thermochromic” AIAA Aviation 2017 (submitted)
2. (2015) ***Wu, H.**, Kwatra, R., Mirzaeiian, M., Liu, X., Grant, J. “Experimental Investigation and CFD Analysis of a Y-Fractal Microchannel Based Heat Sink” *The 8th International Conference on Sustainable Energy & Environmental Protection, Proceedings of SEEP 2015*, Paisley, UK, August 11-14.
3. (2015) Gilmour, MS, ***Wu, H.** “House Design with Energy Saving System: A Review” *The 8th International Conference on Sustainable Energy & Environmental Protection, Proceedings of SEEP 2015*, Paisley, UK, August 11-14.
4. (2015) Liu, X., Liu, L., Wang, W., He, B., **Wu, H.** “Numerical Simulation of Gas-liquid Two-phase Flow in Non-circular Micro-channels,” *The 8th International Conference on Sustainable Energy & Environmental Protection, Proceedings of SEEP 2015*, Paisley, UK, August 11-14.
5. (2015) Kode, TE, ***Wu, H.**, Ogwu, AA. “Critical Review of the Thermo-hydraulic Properties of Fluids in Micro Channels,” *The 8th International Conference on Sustainable Energy & Environmental Protection, Proceedings of SEEP 2015*, Paisley, UK, August 11-14.
6. (2015) Liu, X., Zhang, X., Lu, T., ***Wu, H.**, Mirzaeiian, M. “Numerical Simulation of Vapor-liquid Two Phase Flow with Dirt Blocking Effect inside Channels,” *The 3rd SusTEM International Conference*, Newcastle upon Tyne, UK, July 7-8.
7. (2014) Wang, A., Liu, L., Zhao, J., Lei, J., Zhang, L., **Wu, H.** “Thermal Control System Design for High Power Electronic Equipment of Satellite during Ground Tests,” IHTS140336, *International Heat Transfer Symposium*, Beijing, China, May 6-9.
8. (2012) **Wu, H.**, Tassou, SA., Karayiannis, TG. “A Two-dimensional Frying Model for the Investigation and Optimisation of Continuous Industrial Frying System.” *International Conference on Applied Energy, (ICAE 2012)*. Suzhou, China, July 5-8.
9. (2011) **Wu, H.**, Tassou, SA., Karayiannis, TG., Jouhara, H. “Analysis and Simulation of Continuous Food Frying Processes.” *Sustainable Thermal Energy Management in the Process Industries International Conference (SusTEM2011)*. Newcastle upon Tyne, UK, October 25-26.
10. (2010) **Wu, H.**, Jouhara, H., Tassou, SA., Karayiannis, TG. “Modelling of Energy Flows in Potato Crisp Frying Process,” *Sustainable Thermal Energy Management Conference*. Newcastle, UK, Nov. 2-3.
11. (2010) **Wu, H.**, Tassou, SA., Jouhara, H., Karayiannis, TG. “Analysis of Energy Use in Crisp Frying Processes,” *The 4th International Conference on Sustainable Energy & Environmental Protection*, BARI, Italy, June 29-July 2.
12. (2008) Xu, G., Wang, M., Tao, Z., Ding, S., ***Wu, H.**, Guo, J., “Numerical Analysis of Flow and Heat Transfer Characteristics of Y-Fractal-Link Micro-channel Networks,” *The 8th International Symposium on Advances in Computational Heat Transfer*, Marrakech, Morocco, Volume 13/Issue 1, CHT-08-153, May 11-16.
13. (2008) Tao, Z., Han, S., Ding, S., ***Wu, H.** “A New Approach to Simulate the Fluid Network of Unsteady Flow,” *The 8th International Symposium on Advances in Computational Heat Transfer*,

- Marrakech, Morocco, Volume 13/Issue 1, CHT-08-154, May 11-16.
14. (2008) Xu, G., Wang, Y., **Wu, H.**, etc “Experimental Investigation of RP-3 Coking Characteristics,” *The 2nd International Symposium on Jet Propulsion and Power Engineering*, 2008-ISJPPE-1017, Guilin, China, September 22-26.
 15. (2008) Tao, Z., Liu, N., Ding, S., Xu, G., ***Wu, H.** “Numerical Simulation of Film Cooling Effectiveness on Flat Plate,” *The 12th International Symposium on Transport Phenomena and Dynamics of Rotating Machinery*, Honolulu, Hawaii, February 17-22.
 16. (2008) Tao, Z., Zhao, Z., Ding, S., Xu, G., ***Wu, H.** “Suitability of Three Different Two-Equation Turbulent Models in Predicting Film Cooling Performance over a Rotating Blade,” *The 12th International Symposium on Transport Phenomena and Dynamics of Rotating Machinery*, Honolulu, Hawaii, February 17-22.
 17. (2008) Xu, G., Yang, B., Tao, Z., Ding, S., ***Wu, H.** “Theoretical Analysis of Rotating Film Cooling Mechanism: Part I. Dimensionless Groups of Adiabatic Effectiveness and Heat Transfer Coefficient,” *The 12th International Symposium on Transport Phenomena and Dynamics of Rotating Machinery*, Honolulu, Hawaii, February 17-22.
 18. (2007) Zhu, W., Zhou, N., **Wu, H.** “Polystyrene Nanocomposite Foams Prepared by Dynamic Foaming Process,” *International Conference and Exhibition on Integration and Commercialization of Micro and Nanosystems*, The International Asia Pacific Convention Center & HNA Resort Sanya, Sanya, Hainan, China, January 10-13.
 19. (2006) Zhu, W., Zhou, N., **Wu, H.**, Kong, L., “Novel Dyanmic Foaming Technology for Microcellular Foamed Polystyrene-nanoCaCO₃ Composites,” *International Technology and Innovation Conference (ITIC)*, Hangzhou, China, November 6-8.
 20. (2004) **Wu, H.**, Tao, Z., Chen, G., Xu, G., Ding, S., “Theoretical Study of Heat and Mass Transfer within Cylindrical Porous Media with Cylindrical Dielectric Cores in Microwave Freeze-drying,” *International Conference on Thermal Engineering: Theory and Applications*, Beirut, Lebanon, May 31-June 4.

Submitted manuscript

- ***Wu, H.**, Mirzaeian, M., 2016. “Experimental Investigation and CFD Analysis of a Y-Fractal Microchannel Based Heat Sink” *International Journal of Heat and Mass Transfer (To be submitted)*
- Hu, Z., Yang, X., Yang, M., ***Wu, H.**, 2017. “Energy Separation for Ranque-Hilsch Vortex Tube: A short review” *Renewable & Sustainable Energy Reviews (submitted)*
- Yang, B., Chang, S., **Wu, H.**, Zhao, Y., Leng, M., 2016. “Experimental and Numerical Simulation of Heat Transfer in an Array of Impingement Jets on Concave Surface” *Applied Thermal Engineering (under review)*
- Liu, D., Tao, Z., Luo, X., **Wu, H.**, Yu, X., 2016. “Experimental Investigation of the Effect of Rotor-mounted Protrusion on Ingress Alleviation with Different Rim Seals” *Thermal science and engineering progresses (Submitted)*
- Leng, M., Chang, S., **Wu, H.**, Wang, C., 2016. “Experimental Study of Shear-driven Water Film Flows on Horizontal Metal Plate” *Experimental Thermal and Fluid Sciences (under review)*