

Curriculum Vitae

Personal Information

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Educational Background

- ◆ **2008.09~2012.07** Xi'an Jiaotong University Bachelor of Engineering
Majoring in Energy, Power System & Automation
- ◆ **2012.09~Present** Xi'an Jiaotong University Master Candidate
Advisor: Prof. Sun Jinju
Majoring in Fluid Machinery & Engineering

Skills

- ◆ **English Level:** CET 4: 548/CET 6: 511
GRE: V149, Q161, AW3.0
Toefl: 85
- ◆ **Programming Languages:** FORTRAN
- ◆ **Software:** AutoCAD, Inventor, Origin, Refprop, FLUENT 15.0
- ◆ **Main courses:** Fluid mechanics, Numerical Heat Transfer, Computational Fluid Dynamics.

Research Experience

Physical Sciences and Engineering, King Abdullah University of Science and Technology

Modeling of Flow and Transport in Porous Media 2014.09~2014.12

Using Lattice Boltzmann Method

- ◆ The object of this research is to introduce the lattice Boltzmann method into the pore-scale modeling of flow and transport in porous media. Multicomponent multiphase flow in porous media using LBM will be considered. Many mathematical and computational aspects will be considered. Different numerical schemes will be used with LBM to simulate the models under consideration and numerical simulators may be developed.

Institute of Fluid Machinery and Engineering, Xi'an Jiaotong University

Aircraft Icing Modelling based on LBM 2014.04~Present

- ◆ Modelled the Icing condition which involved flow in porous media and phase change problem by thermal LBM. A new distribution function was proposed to calculate the temperature field and the liquid volume ratio was introduced into the stream equation to consider the porous force effect.

Single Droplet & Spray Impinging onto the Heated Surface 2013.10~2014.03

- ◆ Completed a review on the droplet & spray impinging onto the heated surface through stack of research publications from 1950s to 2013, which summarized the previous work in terms of experiments and simulations and present several deficiencies as well as future directions on this issue.

Lid-driven Cavity Flow simulated by single-relaxation and multi-relaxation LBM 2013.06~2013.09

- ◆ Simulated the lid-driven cavity flow by single- and multi-relaxation LBM in different Reynolds numbers ranging from 100 to 5000 and the results calculated were commensurate with that by Vortex Method and remarkable experiments. In this simulation, several specific boundary conditions were tested.

Key Laboratory of Thermo-Fluid Science and Engineering, Ministry of Education, XJTU

Transport & Thermal Properties of

Alcohols (C1-C4)/Alkanes (C4-C12) Binary Mixtures 2012.12~2013.03

- ◆ Cooperated to accomplish a review on various combinations of alcohols (C1-C4) and n-alkanes (C4-C12) concerning the properties, which include density, viscosity, sound speed, thermal conductivity, isobaric heat capacity and LLE, in liquid condition. In this review, temperature, pressure and different binary mixtures were classified out for the comparison as well as the experiment apparatus and data. It proposed the inefficiencies in previous research and future

advices for the ensuing research.

Experiment on Binary Mixtures

2012.09~2012.11

- ◆ Conducted an experiment on the density of binary mixtures (3-(Methylamino)propylamine with Water, *N*-Methyldiethanolamine, *N,N*-Dimethylethanolamine, and *N,N*-Diethylethanolamine), which involved the compound of mixtures and the manipulation of viscometer. According to the data collected, we have attained a correlation, which related density to volume ratio, appropriate for the condition out of the experiment limitation.

Viscosity Prediction of CO₂/HCs Mixtures

2012.03~2012.09

- ◆ Combined the inversion method and Vesovic-Wakeham theory to predict the CO₂/HCs binary mixtures, which were the main components of refrigerations, in low density and high density, respectively. After the prediction of the gaseous mixtures, we have conducted the fluid mixtures prediction, which was supported by The National Natural Science Foundation of China.

Awards & Publications

- ◆ Outstanding member of Youth League by Xi'an Jiaotong University, Xi'an, China
- ◆ Excellent graduate student by Xi'an Jiaotong University, Xi'an, China
- ◆ Enterprise Scholarship by Zhe Jiang Hongwuhuan Machinery Co., Ltd., Qu Zhou, China
- Bo Song, **Yuansi Tian**, Xiaopo Wang, Zhigang Liu. Viscosity Prediction of CO₂/HCs Fluid Mixtures. *6th International Conference on Cooling & Heating Technologies*, Xi'an, China, 2012
- Xiaopo Wang, Kai Kang, Wei Wang, and **Yuansi Tian**. Volumetric Properties of Binary Mixtures of 3-(Methylamino)propylamine with Water, *N*-Methyldiethanolamine, *N,N*-Dimethylethanolamine, and *N,N*-Diethylethanolamine from (283.15 to 363.15) K. *Journal of Chemical & Engineering Data*, 2013, 58 (12), pp: 3430-3439
- Bo Song, **Yuansi Tian**, Xiaopo Wang, Zhigang Liu. Viscosity Modeling of CO₂/HCs Fluid Mixtures in Wide Thermodynamic Ranges. *Journal of Sciences & Technology Review*, 2014, 32 (24) (in Chinese)
- **Yuansi Tian**, Jinju Sun. Review of single droplet and spray impinging on a heated flat substrate. *International Journal of Heat and Mass Transfer*. (to be submitted)

Social Practice

- ◆ 07/2011-08/2011 Conducted the internship in Guangzhou Guangzhong Enterprise Group Corp, following with teachers in summer vocation. During the internship, we learned the whole structure of the steam turbine, the main characteristics of components, technique of material and assembly, current situation and development of turbine production.
- ◆ 2009-2010 Conducted practice in workshop, learning basic techniques of carpenter and turner.

Hobbies & Personality

- ◆ Guitar, swimming, badminton, football, basketball
- ◆ I have rigorous attitudes towards work and pay much attention to detail, pursuing perfection.