**Peng Jiang**

Date of Birth: August 5th, 1997 | Gender: Male | Tel: (86) 13378439576 | Email: kousiec@gmail.com

[Google Scholar](https://scholar.google.com/citations?user=8pYGc2AAAAAJ&hl=en) Address: Kunming City, Yunnan Province, China

**EDUCATION**

**Wuhan University of Technology | Wuhan, China**

M.S.Power Engineering & Engineering Thermal Physics GPA: 3.50/4.0 Thesis: 91.80/100.0 2019/09 - 2022/07

Core Modules: Advanced Fluid Mechanics *90*, Advanced Heat Transfer *91*, Computational Chemistry & New Energy Engineering Applications *91*, Modern Measuring Technology for Power Machinery *92*

Academic Award: Outstanding Postgraduate of Wuhan University of Technology 2022/07

**Kunming University of Science and Technology | Kunming, China**

B.S.Vehicle Engineering GPA: 3.16/4.0 Thesis: 84.80/100.0 2015/09 - 2019/07

Core Modules: Fluid Mechanics and Aerodynamics *84*, Engineering Thermodynamics *91*, General Chemistry *75*, Heat Transfer *84*, Engine Emissions and Control *90*

Academic Award: Outstanding Graduate of Yunnan Province 2019/07

**WORK EXPERIENCE**

**Dept of Bldg. Env. & Energy Eng, Hong Kong Polytechnic University | Hong Kong SAR, China**

Research Assistant in Indoor Environmental Quality Laboratory 2022/08 - 2024/02

**PUBLICATIONS**

**Jiang, P.,** Xu, L., Wang, Q., Wang, Z., Chung, S. H., and Wang, Y.: Experimental and kinetic study on aromatic formation in counterflow diffusion flames of methane and methane/ethylene mixtures, Fuel, 354, 129304, 2023.

Zhang, J., Yan, F., **Jiang, P.,** Zhou, M., and Wang, Y.: Chemical and Sooting Structures of Counterflow Diffusion Flames of Butanol Isomers: An Experimental and Modeling Study, Combustion Science and Technology, 195, 2165-2190, 2023.

Zhou, M., Yan, F., Ma, L., **Jiang, P.,** Wang, Y., and Chung, S. H.: Chemical speciation and soot measurements in laminar counterflow diffusion flames of ethylene and ammonia mixtures, Fuel, 308, 122003, 2022.

**Jiang, P.,** Zhou, M., Wen, D., and Wang, Y.: An experimental multiparameter investigation on the thermochemical structures of benchmark ethylene and propane counterflow diffusion flames and implications to their numerical modeling, Combustion and Flame, 234, 111622, 2021.

**RESERCH EXPERIENCES**

**Project 5: Experimental study on mitigating the transmission of airborne pollutants in commercial aircraft using personalized ventilation and gasper system.** Supervisor: Dr. Ruoyu You

**Independent Research** | Indoor Environmental Quality Laboratory of PolyU 2022/08 - 2024/02

* Independently constructed and tested a full-scale, three-row Boeing 737 aircraft cabin facility, including a personalized displacement ventilation system and two manikins, to study the transmission of air pollutants in commercial airliners.
* Evaluated a new measuring system based on quartz-enhanced photoacoustic spectroscopy (QEPAS) technique for fast response, specifically designed to study the transport and distribution of air pollutants in indoor environments using sulphur hexafluoride (SF6) tracer gas.

**Project 4: Experimental and kinetic study on aromatic formation in counterflow diffusion flames of methane and methane/ethylene mixtures.** Supervisor: Prof. Yu Wang

**Independent Research** | Combustion and Laser Sensing Laboratory of WUT 2021/08 - 2022/06

* Independently developed a method for measuring polycyclic aromatic hydrocarbons (PAHs) using gas chromatography-mass spectrometry (GC-MS) to qualify and quantify PAHs with up to three rings in counterflow diffusion flames (CDFs).
* Conducted an experimental study of C1-C6 intermediates and PAHs in methane and methane/ethylene flames using GC-MS to clarify reaction pathways and provide a novel dataset for gas-phase speciation and soot formation in methane CDFs.
* Performed simulations using the OPPDIF module of the ANSYS Chemkin package to conduct kinetic pathway analysis.

**Project 3: Chemical and Sooting Structures of Counterflow Diffusion Flames of Butanol Isomers: An Experimental and Modeling Study.** Supervisor: Prof. Yu Wang

**Key Member** | Combustion and Laser Sensing Laboratory of WUT 2021/05 - 2021/07

* Conducted an experimental study of C1-C6 intermediates in butanol isomer flames using GC analysis to understand the effects of isomeric structures on sooting tendencies.
* Contributed to simulations using the OPPDIF module of the ANSYS Chemkin package to conduct kinetic pathway analysis.

**Project 2: Chemical speciation and soot measurements in laminar counterflow diffusion flames of ethylene and ammonia mixtures.** Supervisor: Prof. Yu Wang

**Key Member** | Combustion and Laser Sensing Laboratory of WUT 2021/01 - 2021/04

* Conducted an experimental study of C1-C6 intermediates in ethylene/ammonia flames using GC analysis to provide a comprehensive dataset on sooting characteristics and intermediate species for model validation, providing chemical kinetics insights into ammonia's effect on soot formation in CDFs.
* Contributed to simulations using the OPPDIF module of the ANSYS Chemkin package to conduct kinetic pathway analysis.

**Project 1: An experimental multiparameter investigation on the thermochemical structures of benchmark ethylene and propane counterflow diffusion flames and implications to their numerical modeling.** Supervisor: Prof. Yu Wang

**Independent Research** | Combustion and Laser Sensing Laboratory of WUT 2020/01 - 2020/12

* Independently developed a microprobe sampling system based on gas chromatography (GC) to achieve C1-C6 intermediate species measurement in counterflow diffusion flames (CDFs).
* Conducted an experimental study of C1-C6 intermediates in ethylene and propane benchmark flames using GC analysis to provide a comprehensive dataset for validating future high-fidelity gas-phase and soot models.
* Performed simulations using the OPPDIF module of the ANSYS Chemkin package to conduct kinetic pathway analysis.

**RESEARCH INTERESTS**

Atmospheric chemistry Air quality Aerosols

**TEACHING EXPERIENCES**

Lab supervision for undergraduates at The Hong Kong Polytechnic University 2023/05 - 2024/02

**SKILLS**

**Laboratory Skills:** Solid hands-on experience in mass spectrometry (GC-MS) and data processing; extensive knowledge and experience related to the physicochemical processes of soot particle formation; experience in air quality measurements; robust knowledge of hydrocarbon fuel chemistry and combustion; and experience in experimental optics, e.g., Quartz-enhanced photoacoustic spectroscopy (QEPAS) and INNOVA 1312 Photoacoustic Multi-gas Monitor.

**Computer Skills:** Microsoft Office; ORIGINPRO; SOLIDWORKS; MATLAB; ANSYS.

**Language:** Chinese - Mandarin (Native language); English (IELTS: Overall/L/R/W/S **6.5**/7.0/7.0/6.5/5.5).