

Personal details and contact info

	Title	Full Name	
	Mr	Jiahuan Yi	
	UCL e-mail address		Role in the department
	Jiahuan.yi.16@ucl.ac.uk		PhD Student
	Room		Phone number
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Education and awards

Education:

- BEng in Mineral Processing Engineering, Central South University, China 2016
- MSc in Chemical Process Engineering, UCL, 2017

Awards:

- Dean's Prize, UCL, 2018
- CSC Scholarship, China Scholarship Council, 2018

Personal affiliations

Associate Member (AMIChemE), Institution of Chemical Engineers

Bio

Jiahuan Yi received his BEng from Central South University in 2016 and MSc (Distinction) from the Department of Chemical Engineering at UCL in 2017. He then started his PhD under the supervision of Prof. Haroun Mahgerefteh in the same department in October 2018.

Research interests

Project title

Efficient outflow modelling for industrial pressurised pipelines.

Summary

Jiahuan's main research interests are in the field of mathematical modelling of transient multi-phase flows in pipelines and quantitative risk assessment using CFD approaches for industrial hydrocarbons and under the framework of Carbon Capture and Storage (CCS).

Excessive CO₂ emissions have been significantly accelerating the climate change. This poses huge health and environmental threats including adverse weather conditions and shrinking water supplies, risking the world's sustained development. To combat such an issue which is globally severe, the Paris Climate Agreement requires its participating parties including China and the UK to keep the global temperature rise within this century well below 2°C above pre-industrial levels. CO₂ Capture and Storage (CCS) is recognised as the most effective method of reducing excessive CO₂ emissions and considered urgent in many countries in the world. As part of CCS, the safe and economic operation of pressurised pipelines transporting CO₂ is of great significance. It is therefore vitally important to develop advanced mathematical models for predicting CO₂ flow behaviours during either pipeline normal operations or its accidental failures.

In addition to this, he is also undertaking research in the field of efficient pipeline outflow modelling for industrial hydrocarbons. A project he is currently undertaking is aiming at developing a new algorithm for predicting the behaviours of outflow from pressurised hydrocarbon pipelines to improve the computational efficiency under certain failure scenarios.

Supervisors

1. Haroun Mahgerefteh

2. George Manos

3.

Publications

Teaching

This applies only to academic staff. Indicate the teaching modules you are involved in.

Research group

Prof Haroun Mahgerefteh's research group

Additional information