

# Professional Practice and Industrial Problem Based Innovative Methods for Enhancing Teaching and Learning of New Chemical Engineering Courses



Dr. Lixin Cheng, Dr. Bipro Dubey and Dr. Mark Thompson  
ACES, Department of Engineering and Mathematics

## Introduction

- To collaborate with chemical industry, IChemE, and our peers in the development chemical engineering programme
- To develop innovative methods focusing on excellent student learning experience through professional practice and industrial problem solving
- To address the critical issues of the industrial practice and needs in chemical engineering
- To apply innovative learning methods



## Industrial Problem Based Methods

- Ability /skills to learn independently
- Critical thinking and problem solving skills
- Ability to learn collaboratively in a team
- Using real industrial cases: **automation**, **bio chemical engineering** and **chemical engineering safety issues**
- Industrial experience and problem solving skills through brainstorm and interacting with invited engineers



Guardian Glass UK



Mondelēz



Lab Practice



Workshop



## Conclusions

- Collaboration with IChemE and industry for the development chemical engineering programme
- Enhancement of students' learning experience using innovative methods
- The innovative approach and ideas may be applied to all other engineering courses and further to any other courses at the university

