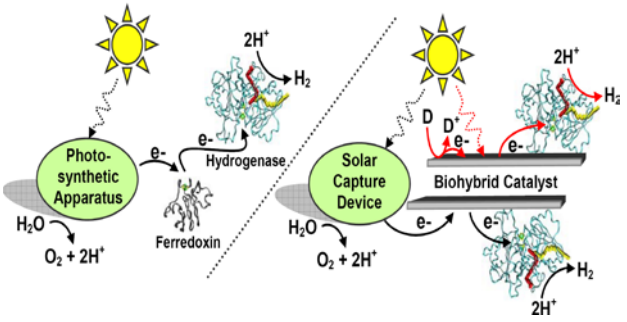
Biological Hydrogen Production from Biomass Wastes Using Activate Sludge Microorganisms

Supervisors: Assoc Prof Bo Jin
Nature of work: Experiment
Area: Chemical Engineering, Hydrogen Production
Funding: *Via* the various University scholarship schemes (see separate information for these).



Project description: Hydrogen is a clean and high efficient energy. This study is aimed at examining the feasibility of biological hydrogen production from an organic waste stream by hydrogen producing bacteria isolated and enriched from pretreated digested activated sludge. This project aims to analyse metabolic flux network associated with hydrogen production to understand enzymatic and metabolic activities in different fermentation environment, consequently to develop a metabolic engineering strategy to optimise the fermentative hydrogen production process, leading to high hydrogen productivity and yield. The outcome of this project will enhance and extend knowledge in metabolic flux network associated with hydrogen production by strict anaerobes. It will also be expected to develop a better strategy for hydrogen production from renewable resources or even waste materials.

More details on this project or other related advanced research topics can be referred to the website of www.adelaide.edu.au/bio-nano-tech or visit my office. Our current research interests include water, energy, materials, biotechnology, tissue engineering, and others.