**School of Science and Health**

**HDR Projects 2014**

**TITLE OF PROJECT:** Discovery of new therapeutic agents from *Danshen*

**SUPERVISOR:** A/Prof Chun Guang Li  
**EMAIL:** c.li@uws.edu.au

**CO-SUPERVISOR/s:**

1. Dr Feng Li  
   **EMAIL:** feng.li@uws.edu.au
2. A/Prof Dennis Chang  
   **EMAIL:** d.chang@uws.edu.au
3. Dr Frank van der Kooy  
   **EMAIL:** f.vanderkooy@uws.edu.au

**CAMPUS/S PROJECT IS OFFERED AND CONDUCTED:** Campbelltown

**BACKGROUND (200 WORDS):**

*Danshen* is an important Chinese medicinal herb. It has been widely used in the treatment of cardiovascular conditions, such as ischemia stroke and coronary heart disease. The objective of this project is to study the mechanisms of action of *Danshen* bioactive compounds and develop more active derivatives for potential therapeutic applications.

**AIM OF STUDY:** The project will study the pharmacological actions of bioactive compounds of *Danshen* and their derivatives.

**METHODS:**

*Chemical synthesis*

Involving synthesis of various compounds.

*In vitro and cell studies*

Involving conducting assays to determine the antioxidant, anti-inflammatory and cardioprotective activities of test compounds *in vitro* and in cultured cells (cardiac, neuron and endothelial cells).

*In vivo studies*

Using a hypoxia-induced brain damage model in zebra fish to study the effects of compounds on survival rate and hypoxia tolerance, and to investigate possible mechanisms.

**ETHICS APPLICATION REQUIREMENTS:** N/A

**KEY REFERENCES:**