



**MSc NANO STUDENT NAME: ZHANG Min**

**PROJECT SUPERVISOR: Prof. Ian W. Boyd (1<sup>st</sup>)  
Prof. Arokia Nathan(2<sup>nd</sup>)**

**PAPER TITLE: Photo-transformation of Amorphous Structures for Silicon Devices**

**AUTHOR LIST: ZHANG Min  
Prof. Ian W. Boyd  
Prof. Arokia Nathan**

**ABSTRACT:**

The excimer lamps(excilamps) are developing rapidly. High intensity ultraviolet(UV) or vacuum ultraviolet(VUV) radiation can be provided by the forming non-equilibrium discharges. With the tentative idea of “low temperature and large area”, we are interested in whether this radiation by excimer lamps would make a change in the structure of the amorphous silicon.

The system involved in the experimental plan is an electrode based equipment, comprising argon gas which generating light of 126nm wavelength.

We will provide the the set of the working conditon of the 126nm excimer lamps, we will also provide the experimental results of different radiation time and the characterization before and after the exposure. This including the measurements of SEM, FTIR, XRD, Raman Spectroscopy, I-V and C-V Characteristics, for the purpose of identify the electrical and optical property changes.