Login to Moodle

1. Click this link to access UNSW Moodle
2. Login using Your zID and zPass

Enroll yourself

1. Go to Site Home and search for Engineering Postgraduate Research Symposium
2. Click the Heading Student Self Enrolment – 2018 and enter the Speaker Enrolment Key: Engsymposium2018

Submit Your Abstract:

1. To submit your abstract, click Abstract Submission 2018
2. Select Add Entry tab and complete all the mandatory information.
   - If your research can be associated with multiple Research fields pick the most relevant one.
   - Please ensure you complete all fields
3. Click Save and View to complete your submission

**Important information:**

- Abstract for poster is open for 1st - 3rd year PhD students
- Abstract for oral presentation is only open to final year PhD students
- Abstract is only accepted in text format with 300-word limit, see Sample Abstract
- Please ensure you DO NOT have headings in your abstract.
- Do NOT use special characters, images or equations in the Abstract

Submission deadline: 13 July 2018

If your abstract is accepted for oral presentation, you will be required to register for the symposium. To register, go to the Symposium Registration section, click Symposium Registration 2018 and submit the required form which will be provided with your abstract acceptance notification.

That’s it! All the best for your presentation and the rest of your PhD.
Screenshots from Moodle

Step 1:
Enroll yourself using the Speaker Enrolment Key Engsymposium2018

Step 2:
Submit Your Abstract
Click Abstract Submission 2018

Select Add Entry
This is an example of an abstract relevant to this type of symposium.

NOTE: Your abstract should not have headings, however, it should include the various aspects as identified in yellow boxes below. Max words = 300

Small Particles, Big Efficiency Gains: An investigation of Nanofluid Optical Filters for Photovoltaic /Thermal Collector Enhancement

In the face of growing energy demand and climate change, the development of renewable, reliable energy sources is one of the greatest challenges of the 21st century. Fortunately, the sun provides over 1,000 times more energy than annual human energy consumption and, with efficient conversion into electricity and heat, can supplant fossil fuels as humanity’s primary energy source.

Combined photovoltaic/thermal (PV/T) collectors are a promising, high-efficiency technology that generates both electricity and useful heat using minimal rooftop area. Unfortunately, current PV/T collectors must deliver moderately low temperatures (<60°C) or suffer severe electricity conversion efficiency losses due to PV thermal degradation.

This work investigates using nanofluids - liquids containing suspended particles less than 1/100th the width of a human hair - to enhance the performance of PV/T systems. These nanofluids are physically separated from the PV module, which eliminates overheating of the solar cells. Because silicon solar cells most efficiently convert near-infrared irradiation into electricity, the nanofluid is designed to absorb visible light and longer infrared. Thus, when the nanofluid channel is positioned in front of the PV module, only the photons most efficiently converted into electricity are transmitted to the solar cell, and the rest of the sunlight is converted to heat >80°C.

The nanoparticles were fabricated out of silver and gold to absorb visible and infrared irradiation, respectively, and coated with a thin silica shell to protect the particles from thermal and UV degradation. These particles were suspended in both water and oils to assess performance in moderate and high temperature systems, and then tested using both an indoor PV/T system and outdoors in a prototype nanofluid PV/T collector. The results indicate that, under certain conditions (high solar irradiation and moderate to high gas prices), the nanofluid PV/T system provides an economically viable alternative to conventional PV and gas.

HINT: Use language that a non-specialist can understand, but include enough technical content to keep a specialist interested.

Printed with permission.