

WANTED: PhD student for a cross-disciplinary project on ovarian cancer and Imaging Mass Spectrometry (IMS) at the Adelaide Proteomics Centre.

Epithelial ovarian cancer (EOC) has the highest mortality rate of all gynaecological malignancies and was responsible for 13 850 fatalities in 2010. There is no universal model for ovarian oncogenesis and disagreement still exists concerning the correct grading system. As such it is vital to gain a deeper understanding of EOC, in particular, there is an urgent need for the development of grading systems which can unambiguously distinguish tumors based on molecular composition and predict patient responses to treatment.

The proposed project will involve theory, design and application of MALDI imaging mass spectrometry (IMS) to molecular grading of ovarian epithelial tumours. The Adelaide Proteomics Centre is the national NCRIS facility for MALDI IMS and the only group in Australia with a publication record using this technology.

The Centre is equipped with the latest mass spectrometry instrumentation and has close collaborations with Bruker Daltonics (Mass Spectrometry instrument vendor) to push the boundaries of this technology.

The project will use MALDI IMS to generate mass spectrometry based grading profiles for the four sub-types of EOC, beginning with the most common serous sub-type.

Project aims will be as follows:

- 1) Design and implementation of a clinically relevant method for generating MALDI IMS grading profiles in frozen and formalin-fixed ovarian tissues.
- 2) Acquisition of disease specific molecular profiles by MALDI IMS across a large patient subset of varying grade, starting with serous sub-type tumors.
- 3) Use of the acquired profiles to generate an ovarian cancer classification system to complement grading by classical histology.

We are looking for a self motivated student with a degree in Biochemistry or Chemistry and depending on quality of applicants we would be able to pay a \$3,000/year top up on PhD scholarships.

If you are interested in the PhD position please contact:

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