

Multiplexed Polymers for Early-stage Cancer Detection

Supervisors: Dr Sheng Dai in collaboration with University of Toronto.

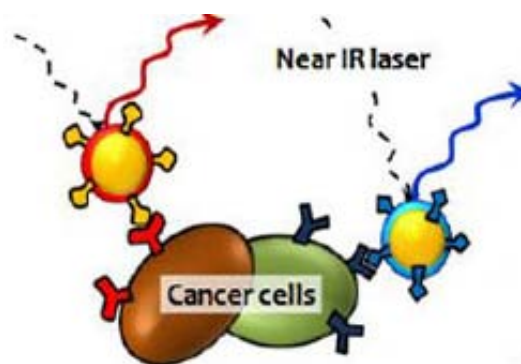
Nature of work: Laboratory based experiments

Area: Advanced Materials.

Potential implications: Accurate complex human diagnosis in early-stage.

Funding: Stipend will be provided by the Australian Research Council research grant or supported by the University, and the tuition fees will be covered automatically for Australian/NZ citizens and those with PR. Those who do not fall within these categories could apply for international research scholarship, Adelaide graduate Scholarships or have their fees waived if their GPA is sufficiently high.

Brief description: Due to the pollution and climate change, more and more people lose their lives due to cancer and other complex diseases. If such diseases can be detected in early-stage and proper medical treatments are provided, patient's life can be effectively extended. As such, the precise diagnosis of complex human diseases is a challenging topic. In this project, a variety of bar-encoded polymer labels, biomarkers, monomers and microbeads will be prepared. Such types of polymer materials are highly multiplexed, and this provide a high throughput, highly accuracy diagnostic platform for modern bioanalysis.



This is a laboratory-based research project. The candidate should have interests in polymer science, nanomaterials and biomaterials. More details on this project or other 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.