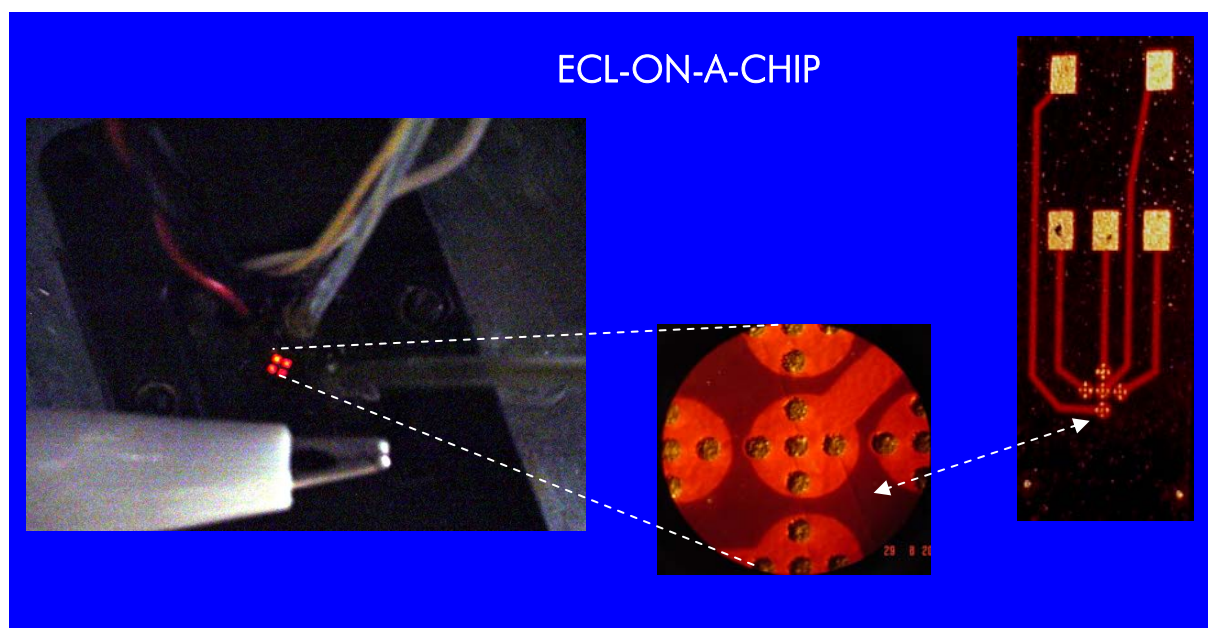
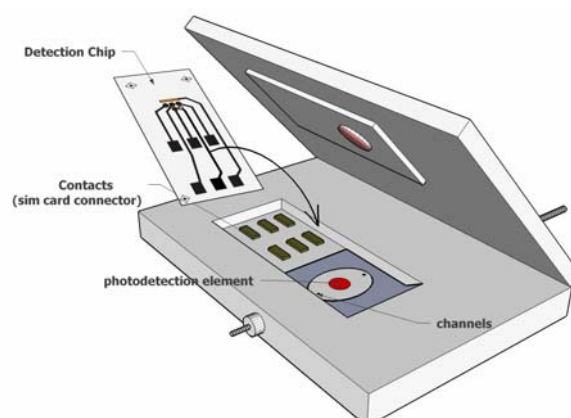
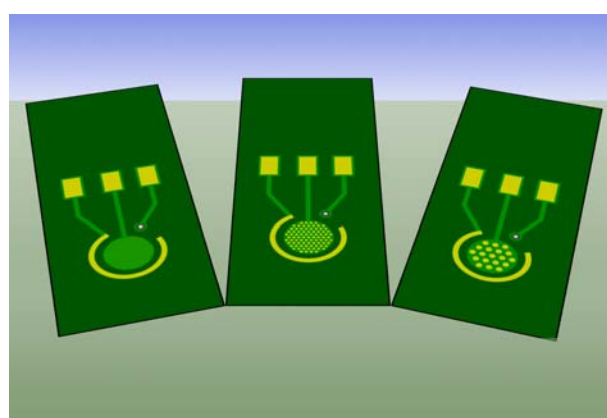


1. Lab-on-a-Chip: Miniaturized Opto-electrochemical Sensors for Real World Applications (in Collaboration with CSIRO)



Photograph of light emission from the sensor device with micro-fabricated detection chip.

Miniaturisation is a continuing theme in analytical chemistry as with many areas of science. Miniaturised sensors which allow testing in the field without recourse to time intensive, expensive laboratory procedures will play an increasingly important role in many areas of society from forensic science to point of care diagnostics. The objective of this project is to develop an analytical instrument no bigger than a mobile phone suitable for real world sensing applications; specifically the rapid, sensitive and selective quantitation of pharmaceuticals such as alkaloids and antibiotics. Electrochemiluminescence on-a-chip will be investigated using our microelectrode array platforms fabricated at CSIRO.



Looking at the effect of electrode size and electrode spacing in the array on signal response will be one interesting aspect of this project.