

## Title

### Advanced Rapid Micro-Analytical Techniques

#### Problem Statement

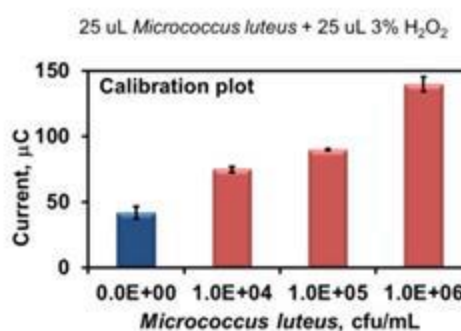
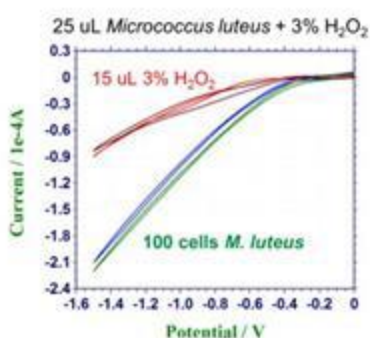
To develop an analytical microbiological device for the simultaneous detection of Staphylococcus and micrococcus - CATOXE -

#### Approach

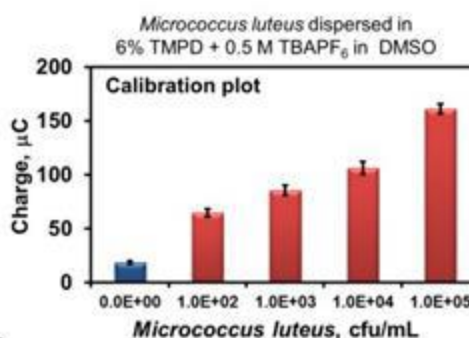
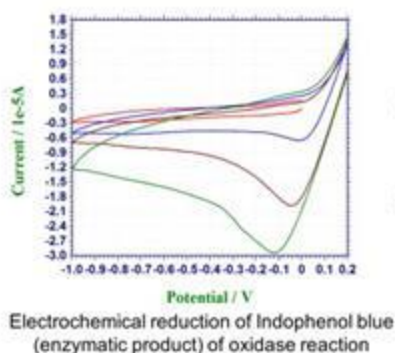
PMTC research team MiCRA is developing electrochemical bioassay techniques to differentiate between staphylococci and micrococci species in pharmaceutical samples (MICROPRINT). The research to date has verified the use of a sensitive thin-layer microbial oxygen sensor –‘MOXYS’, for the quantification of catalase-positive bacteria. Additionally, work has innovated electrochemistry for the selective detection of oxidase activity in oxidase-positive bacteria, through identification of a suitable electron donor, using an Indophenol Blue electrode (IP-BLUE).

#### Solution

#### Catalase test



#### Oxidase test



We have produced electrochemical sensors for catalase and oxidase and integrate them into one device for the simultaneous measurement of catalase and oxidase utilising a MOXYS device and Indophenol Blue responsive electrode. Creating a handheld, portable device capable of detecting Staphylococcus and micrococcus.



### Opportunity

The project is looking for partners to advance this project to the next level - integrating the sensors and producing the first prototype. We are looking to attract partners to license and or engage in either a directly funded or state leveraged co-funded project with individual companies or as a consortium.