

## Project proposal template

### Graduate School studentships

### March 2015

<i>Project title</i>	Development of nano-enabled technology for enhanced detection of biomarkers for forensic serology and healthcare applications.	
<i>First Supervisor</i>	Dr <input type="text" value=""/>	<input type="text" value="Rosa Busquets"/>
<i>Second Supervisor</i>	<input type="text" value="see below (other members of supervisory team)"/>	
<i>School</i>	<input type="text" value="Pharmacy and Chemistry"/>	
<i>Other member of supervisory team (no more than three KU supervisors in total)</i>	<input type="text" value="Dr Lubinda Mbundi, Blond McIndoe Research foundation, NHS Queen Victoria Hospital"/>	
<i>Specific requirements beyond 2:1 degree</i>	<input type="text" value=""/>	

**Project summary**  
**(max 4,000 characters)**

Increased detection sensitivity, and selectivity, can lead to early diagnosis of disease and subsequently early treatment that may lead to health improvement and cure. In parallel, improvements in sensitivity can imply a breakthrough in forensic serology, discipline that addresses the identification of tissue samples which are key in crime scene investigation. However, when detected, these types of evidences are found degraded, aged or in low abundance in many cases, and state-of-the-art technology is unable to provide conclusive results.

The proposed project aims to develop new technology based on novel reactivity of nanomaterials for enhanced detection of key biomarkers for forensic and healthcare applications. The supervisory team is constituted by experienced researchers in analytical chemistry, nanotechnology and tissue engineering. The ideal candidate should be open-minded and happy to work in a multidisciplinary environment including synthetic organic chemistry, analytical chemistry, nanotechnology and forensic science involving human tissue, and keep up to date with the developments in the field.

