

Project proposal template – Faculty studentships Summer 2014

Project proposal template – Faculty studentships Summer 2014			
<i>Project title</i>	<input style="width: 95%;" type="text" value="Investigation of a probiotic strain of Lactobacillus plantarum 2025 using next generation genome"/>	<i>Director of Study</i>	<input style="width: 95%;" type="text" value="Andrey Karlyshev"/>
<i>Second Supervisor</i>	<input style="width: 95%;" type="text" value="Mark Fielder"/>	<i>School</i>	<input style="width: 95%;" type="text" value="Life Sciences"/>
<i>Other members of supervisory team</i>	<input style="width: 95%;" type="text" value="Ruth Griffin"/>	<i>Any requirements from applicant (eg degree in specific subject area)</i>	<input style="width: 95%;" type="text" value="BSc or MSc Degree in any relevant subject area, including but not"/>
Project summary (max 1,000 characters)			
<p>The rise of multidrug resistant forms of bacterial pathogens imposes a serious problem to public health worldwide. Conventional antibioticotherapy also eliminates natural (beneficial) microflora, thus leading to various complications. Application of probiotic bacteria boosts protection against pathogens and plays an important role in prophylaxis of infectious diseases. Our previous study allowed isolation of a highly efficient probiotic strain <i>L. plantarum</i> 2025. The aim of the current project is the identification of specific genetic features of this microorganism responsible of its superior beneficial effects. This will be done using next generation genome sequencing (NGS) technology (IonTorrentPGM), bioinformatics and gene expression studies. All required training will be provided by the supervisor. An applicant is expected to have some background in microbiology and molecular biology. On completion of this training a student will learn state of the art methods of molecular biology/bacteriology used for functional analysis of bacterial genomes. The study will assist in the development on novel probiotic strains with improved properties.</p>			