

Project proposal template – Faculty studentships Summer 2014

<i>Project title</i>	Development of quantitative cell image analysis techniques for high content screening	<i>Director of Study</i>	Dr Andreas Hoppe
<i>Second Supervisor</i>	Dr Darrel Greenhill	<i>School</i>	Computing and Inform <input type="button" value="v"/>
<i>Other members of supervisory team</i>		<i>Any requirements from applicant (eg degree in specific subject area)</i>	Computing, Engineering, Physics, Biomedical Sciences

**Project summary
(max 1,000 characters)**

The combination of light microscopy and image processing has led to the development of quantitative analysis techniques in experimental biology. The analysis of biomedical data is challenging but has the potential to provide an insight into complex biological processes. The aim of this project is to develop novel cell image segmentation techniques to extract cellular features and to establish morphometric parameters based on a stochastic image analysis approach. These would feed into a statistical model to encode and interpret cellular features for high content screening purposes. Such an approach would become an important tool for fundamental cancer research, developmental biology and drug discovery. This project is in collaboration with Cancer Research UK. Suitable candidates should have a degree in computing, engineering, physics or biomedical sciences with an interest in image analysis. A training programme is provided.