



Funded PhD Student Project

Supervisor name & contact details:	<p>Dr Annette Byrne (Main Supervisor) Senior Lecturer RCSI Dept of Physiology & Medical Physics RCSI Centre for Systems Medicine Email: annettebyrne@rcsi.ie</p> <p>Prof Jochen Prehn (Co-Supervisor) Head of Department RCSI Dept of Physiology & Medical Physics RCSI Centre for Systems Medicine Email: JPrehn@rcsi.ie</p>
Research Centre Name and Website (if applicable)	<p>Royal College of Surgeons in Ireland Dept of Physiology & Medical Physics https://www.rcsi.ie/physiology</p> <p>Royal College of Surgeons in Ireland RCSI Centre for Systems Medicine http://www.systemsmedicineireland.ie</p> <p>Project Website: http://www.coloforetell.ie</p> <p>Main Supervisor Website: http://pi.rcsi.ie/pi/annettebyrne/index.asp</p>
Funding Agency	Science Foundation Ireland (SFI)
Studentship Details	<p>Stipend of €18,000/year (plus fees) and project costs up to a maximum of 4 years. Anticipated Start Date: Sep 1st 2015</p>
Subject Area	Cancer Biology; Colorectal Cancer Drug/Biomarker Development
Title of the Project	Coloforetell (http://www.coloforetell.ie)
<p>Project Description (max 300 words)</p> <p>Colorectal cancer is the second leading cause of cancer-related deaths in the developed world. Regorafenib, a newly approved tyrosine kinase inhibitor is active in metastatic colorectal cancer (mCRC) patients for whom no other treatment options exist. Nevertheless, as not all patients respond to treatment, the discovery of a patient subset most likely to derive clinical benefit is of high priority. Herein, a state of the art mCRC Patient Derived Xenograft (PDX)* discovery platform will be established to enable the systematic interrogation of predictive 'omic and imaging markers of intrinsic resistance. The effect of REG in a cohort of metastatic mCRC PDX models will be characterized using imaging and immunohistochemistry. An integrated whole exome sequencing / Reverse Phase Protein Array strategy will identify biomarkers & interrogate cellular signaling pathways using statistics and systems pathway analyses. Functional Magnetic Resonance Imaging (MRI) will</p>	



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be assessed in novel orthotopic PDX models as a possible predictive imaging response marker. ColoForetell has identified the discovery & verification of predictive pharmaco-omic & imaging methods for Regorafenib as a primary goal.

*More info on PDX models can be found here: <http://europdx.eu>

Please indicate the student requirements for this project

Candidates must have obtained a primary degree classification equivalent to Upper Second Class Honours (2.1) or above, from an approved University or an approved equivalent degree-awarding body, or have an approved equivalent professional qualification in an area cognate to the proposed research topic.

** N.B Candidates must be fully willing to work with *In Vivo* Disease Models.

Deadline to submit applications

Applications should be submitted electronically to Dr Annette Byrne (annettebyrne@rcsi.ie) by June 15th 2015. Please e-mail CV and Cover Letter

**NB Interviews will be held late June/ early July 2015 at RCSI, Dublin Campus.