



Clinical and Pre-Clinical Cancer Research: Data Analyst / Biostatistician

Location: Centre for Systems Medicine (CSM) and Department of Physiology and Medical Physics, Royal College of Surgeons in Ireland (RCSI)

Reporting to: Prof Jochen Prehn

Project background: The research group of Prof Jochen Prehn at the RCSI Centre for Systems Medicine and the Department of Physiology and Medical Physics aims to identify novel prognostic and predictive biomarkers for the clinical management of colorectal cancer and other solid tumours. The team utilizes genomic and proteomic/RPPA data sets as well as deterministic and data-driven systems modelling approaches on large clinical cohorts and pre-clinical cancer models (patient-derived xenografts) to develop new stratification tools for genotoxic therapies, targeted therapies, as well as new drugs such as apoptosis sensitisers. The group collaborates within large European clinical and preclinical research networks funded by the European Union, Science Foundation Ireland (two recent Principal Investigator Awards) and the Irish Cancer Society, as well as with key industrial partners. The research infrastructure at the CSM includes IT support, genomic and proteomic/RPPA analysis infrastructure, Cellomics and high throughput flow Cytometry, confocal microscopy, microfluidics, multiphoton microscopy, ex vivo and 3-D sphere culture, and small animal bioluminescence facilities.

RCSI: has 450 scientist and clinician researchers working in its research institute. The College has invested €59 million of its own non-exchequer funding in research infrastructures, human resources and research projects in the last 10 years. RCSI is among the top 50 most international universities in the world (Times Higher Education University World Rankings, 2014-15). It is a not-for-profit health sciences institution focused on education and research to drive positive change in all areas of human health worldwide. RCSI is headquartered in the city centre of Dublin, which is continuously ranked as one of the best cities to live in the world.

Description of post: The group now seeks to appoint a Data Analyst / Biostatistician to oversee data analysis and integration, and to support a strong team of systems biologists and bioinformaticians (6 postdoctoral scientists and 1 PhD student), cancer biologists (5 postdoctoral scientists and 3 PhD students) and clinical researchers in the identification of predictive/prognostic signatures and patient stratification tools.

Career Development Opportunities: The candidate will have a chance to be involved in manuscript preparation, proposal preparation, industry engagement and research management, significantly extending her/his career opportunities. In addition, RCSI has committed to a €50 million expansion of its research division over the next five years (including 20 Research Lecturers), providing new opportunities for entry into an academic career.

This 2-year position will be available from July 1st, 2015, or at an earlier time point.



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Person Specification: The candidate should have a higher degree (PhD or Master) in the area of Biostatistics, Mathematics, Bioinformatics, Systems Biology, Software Engineering or a related field, ideally with programming experience in at least one higher programming language (C/C++, Visual Basic or MATLAB preferred). (S)he should have research experience or background knowledge in the subject areas described above, and should have demonstrated research accomplishments documented by publications and/or awards. (S)he will be required to work independently and to integrate into a strongly interdisciplinary research environment. Excellent communication skills are required to team up with project partners.

Salary: The successful candidate will be appointed on the salary scale at a point commensurate with qualifications and experience.

Application procedure: Please send a CV and accompanying documentation (references, publications) to prehn@rcsi.ie .

Closing date: Applications are reviewed at an ongoing basis but should be received no later than June 15th , 2015.

Other information: Further details can be obtained from Prof Jochen Prehn, Team Leader and Director of the RCSI Centre for Systems Medicine at prehn@rcsi.ie .

Web: <http://www.systemsmedicineireland.ie/>

Relevant publications from the group:

1. Lindner AU, Concannon CG, Boukes GJ, Cannon MD, Llambi F, Ryan D, Boland K, Kehoe J, McNamara DA, Murray F, Kay EW, Hector S, Green DR, Huber HJ, Prehn JH. Systems analysis of BCL2 protein family interactions establishes a model to predict responses to chemotherapy. *Cancer Res.* 2013 Jan 15;73(2):519-28.
2. Schmid J, Dussmann H, Boukes GJ, Flanagan L, Lindner AU, O'Connor CL, Rehm M, Prehn JH, Huber HJ. Systems analysis of cancer cell heterogeneity in caspase-dependent apoptosis subsequent to mitochondrial outer membrane permeabilization. *J Biol Chem.* 2012 Nov 30;287(49):41546-59
3. Huber HJ, Connolly NM, Dussmann H, Prehn JH. A structured approach to the study of metabolic control principles in intact and impaired mitochondria. *Mol Biosyst.* 2012 Mar;8(3):828-42.
4. Hector S, Rehm M, Schmid J, Kehoe J, McCawley N, Dicker P, Murray F, McNamara D, Kay EW, Concannon CG, Huber HJ, Prehn JH. Clinical application of a systems model of apoptosis execution for the prediction of colorectal cancer therapy responses and personalisation of therapy. *Gut.* 2012 May;61(5):725-33.
5. Huber HJ, Dussmann H, Kilbride SM, Rehm M, Prehn JH. Glucose metabolism determines resistance of cancer cells to bioenergetic crisis after cytochrome-c release. *Mol Syst Biol.* 2011 Mar 1;7:470.