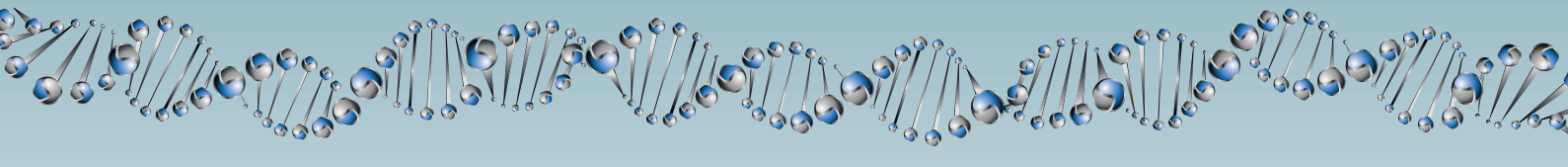
Symposium

RATHER
Rational Therapy for Breast Cancer

Irish Cancer Society
BREAST-PREDICT

Leveraging the power of systems medicine in personalised oncology

Tuesday 20th January 2015, 3.30-7.30pm
Conway Lecture Theatre, University College Dublin



Speakers:

Prof. Carlos Caldas
Cancer Research UK Cambridge Institute

Prof. Lodewyk Wessels
The Netherlands Cancer Institute

Prof. Walter Kolch
Systems Biology Ireland, University College Dublin

Dr Nicolas Stransky
Blueprint Medicines, Cambridge, Massachusetts

Prof. Jochen Prehn,
Royal College of Surgeons Ireland

Chaired by Prof. John Crown and Prof. William Gallagher

For further information or to register, please contact karen.misstear@oncomark.com

Irish Cancer Society

SEVENTH FRAMEWORK PROGRAMME

oncomark

MTC

UCD DUBLIN

SPEAKERS

Keynote speaker: Prof. Carlos Caldas has held the Chair of Cancer Medicine at the University of Cambridge since 2002. He heads the Breast Cancer Functional Genomics Laboratory at the Cancer Research UK Cambridge Research Institute, is an Honorary Consultant Medical Oncologist at Addenbrooke's Hospital, Lead of the Cambridge Experimental Cancer Medicine Centre and Director of the Cambridge Breast Cancer Research Unit which opened at Addenbrooke's Hospital last year. Prof. Caldas is also Fellow of the American College of Physicians, the Royal College of Physicians, the Royal College of Pathologists, and was elected a Fellow of the Academy of the Medical Sciences in 2004. Professor Caldas is a graduate from the University of Lisbon Medical School and trained in Internal Medicine at UT Southwestern, Dallas and Medical Oncology at Johns Hopkins Hospital, Baltimore. He then completed a research fellowship at the Institute of Cancer Research in London, and moved to Cambridge in 1996. Prof. Caldas directs a research group working on the genetic alterations underlying human epithelial malignancies, with a particular focus on breast cancer.

Prof. Lodewyk Wessels is the head of the Computational Cancer biology group at the Netherlands Cancer Institute in Amsterdam, The Netherlands. He currently holds a position as Adjunct Assistant Professor in Bioinformatics at the Delft University of Technology. The Computational Cancer biology group led by Dr Wessels focuses on developing novel computational approaches to exploit a wide variety of data sources (gene expression data, array comparative genomic hybridisation, insertional mutagenesis screens, functional annotation databases, clinical, pathological and histological data) to improve stratification of cancers into distinct types that are well correlated with outcome and therapy response. To this end, significant effort is devoted to a better understanding of disease development and progression by identification of genes and pathways involved in tumorigenesis. Specific computational problems that are being addressed include the development of algorithms for robust predictor construction; cross-species (mouse-human) mapping and efficient integration of heterogeneous data sources for retrieval of complex interactions between molecular variables to identify oncogenic pathways.

Dr Nicolas Stransky is a Senior Scientist within the computational biology division of Blueprint Medicines, based in Cambridge, Massachusetts, in the USA. Blueprint Medicines are a company specializing in developing highly selective kinase inhibitors for genomically-defined cancer subsets. Led by a management team and advisors with world-renowned expertise in cancer genomics, drug discovery and clinical oncology, Blueprint has developed a platform that combines genomics with a novel library of kinase inhibitors, enabling Blueprint to rapidly develop potent highly selective compounds against clear genomic driver targets. Dr Stransky joined Blueprint Medicines following a successful research position in the Broad Institute of MIT and Harvard, where he led the Cancer Cell Line Encyclopaedia project – a successful attempt to genetically characterize over 1000 cancer cell lines, and to provide public access to DNA copy number, mRNA expression and mutation data. These data have been used to identify gene expression-based predictors of sensitivity to anti-cancer drugs.

Prof. Walter Kolch is the Director of the UCD Conway Institute, an interdisciplinary flagship Research Institute for biomolecular and biomedical research, as well as Director of Systems Biology Ireland. Prior to his appointment at UCD, Prof. Kolch was a Senior Group Leader at the Beatson Institute for Cancer Research, and Professor for Molecular Cell Biology at the University of Glasgow, Scotland. While at the University of Glasgow he founded and directed the Sir Henry Wellcome Functional Genomics Facility (http://www.gla.ac.uk/functionalgenomics/) in 2001 which was one of the first facilities worldwide that integrated genomics, transcriptomics, proteomics and bioinformatics under one roof. Before moving to SBI in August 2009 he was Scientific Director of the Interdisciplinary Research Collaboration (IRC) Proteomics Technologies RASOR (http://www.gla.ac.uk/rasor/), a £15Mi multidisciplinary and multi-University research project for the development of innovative proteomics technologies. Originally trained as a medical doctor, Prof. Kolch has spent most of his career working in research with a focus on the analysis of kinase signalling networks, particularly in the field of Raf and MAP kinase cascades.

Prof. Jochen Prehn Jochen Prehn has been Professor and Chairman of the Department of Physiology and Medical Physics at the Royal College of Surgeons Ireland since 2003, and was appointed Director of the Centre for Systems Medicine in 2006 (http://www.systemsmedicineireland.ie/). He was the first recipient of a Science Foundation Ireland Research Professorship award. Professor Prehn leads a research group focusing on the role of mitochondria and apoptotic signalling molecules in the regulation of cell death mechanisms, and their implication for human disease. His group focuses on the Bcl-2 family of proteins,

SPEAKERS

which contain both pro- and anti-apoptotic proteins and regulate the mitochondrial pathway of apoptosis. The group currently is one of the only groups world-wide that has successfully begun to translate dynamic systems models of apoptosis signalling into a clinical context, and has filed several patent applications for the use of these technologies as prognostic markers and stratification tools. A second major research interest lies in real-time imaging of cell death signals in neurons and cancer cells, employing confocal GFP and FRET techniques. Prof. Prehn also co-ordinates the FP7-funded APO-DECIDE Consortium, which aims to apply systems medicine to devliver personalised medicine for colorectal cancer.

Symposium co-Chair: Prof. John Crown, a consultant medical oncologist with St Vincent's University Hospital, Dublin, is the founding member of the All-Ireland Cooperative Clinical Research Group (ICORG), the Anglo-Celtic Oncology Group, the European Breast Cancer Dose Intensity Study, and the Irish Society of Medical Oncology, in addition to his role as an elected independent Senator in the Irish Senate (Seanad Éireann). ICORG are a not-for-profit network comprising more than 95% of Ireland's oncologists as well as collaborations with national cancer research groups, and leading international groups such as the ECOG, NSABP, TRIO, UNC Cancer Network and CRUK. ICORG's aim is to increase collaborations between cancer research groups and the pharmaceutical industry, thereby enabling Irish patients to participate in cutting edge clinical trials (to date over 10,300 cancer patients have accessed research treatments). Prof. Crown was awarded the Thomas Baldwin Chair in Translational Cancer Research at Dublin City University in 2003, the Newman Clinical Research Professorship in UCD in 2004, and the Health Research Board Clinician Scientist Award in 2007. Prof. Crown carried out his clinical training in UCD, Mount Sinai Medical Center and Memorial Sloan Kettering before returning to Ireland.

Symposium co-Chair: Prof. William Gallagher, Professor of Cancer Biology within the UCD School of Biomolecular and Biomedical Science, is also a Conway Fellow at the UCD Conway Institute. In 2007, he co-founded *OncoMark Ltd.*, which is a private company centred on the development and application of biomarker panels and associated technologies, on both tissues and biological fluids (www.oncomark.com), and is OncoMark's Chief Scientific Officer. A major focus of Prof. Gallagher's research work is the identification and validation of candidate biomarkers of breast cancer and melanoma, with particular emphasis on translation of transcriptomic and proteomic datasets into clinically relevant assays. In addition, his team (the Cancer Biology and Therapeutics Lab; www.cbtlab.ie) investigates the functional relevance of candidate tumour progression-associated genes at both *in vitro* and *in vivo* levels, as well as engages in preclinical evaluation of novel anti-cancer agents. Prof. Gallagher is currently Director of *BREAST-PREDICT*, which is the first Irish Cancer Society Collaborative Cancer Research Centre (CCRC) to be funded, and is co-PI and Deputy Co-ordinator of a major Science Foundation Ireland-funded Strategic Research Cluster, *Molecular Therapeutics of Cancer* (2009-2014) (www.mtci.ie). Prof. Gallagher received the BACR/AstraZeneca Young Scientist Frank Rose Award in 2004, the St. Luke's Silver Medal Award in 2008 and the NovaUCD 2011 Innovation Award.