



## INVITED LECTURE

### Dr. Philip DUNNE

School of Medicine, Dentistry and Biomedical Sciences  
Centre for Cancer Research & Cell Biology  
Queen's University Belfast, UK

**When: May 2nd, 2018, 11:00**

**Where: seminar room RCX2, 3rd floor, building A29, RECETOX, Kamenice 5, Brno**

## The clinical utility of molecular stratification in colorectal cancer

### Abstract

There are ~1.4 million cases of colorectal cancer (CRC) annually worldwide. Significant advances have been made in molecular stratification of CRC, leading to identification of four Consensus Molecular Subtypes (CMS1-4), confirming previously identified histological and molecular subtypes. CMS1 is enriched for microsatellite instability (MSI), immune-infiltration and correlates with good prognosis; CMS4 is stromal-rich, with high levels of cancer-associated fibroblasts (CAFs) and a poor prognosis. CMS3 is defined by activation of metabolic pathways, with enrichment for KRAS mutations. CMS2 displays upregulation of CRC hallmarks (WNT and MYC pathways) and accounts for ~40% of tumours.

Although molecular interrogation has markedly improved our biological understanding of the disease, it is yet to significantly contribute to standard patient care in CRC. The clinical utility of molecular subtyping has been validated extensively in CRC **resection** specimens; however the suitability of CRC **biopsy** material for prospective molecular stratification has not been comprehensively assessed. This is increasingly important, as the number of molecularly-guided CRC trials that utilise pre-treatment endoscopic biopsies for patient stratification continues to increase. Given CMSs heavy reliance on accurately assessing the overall tumour microenvironment, the presence of intratumoural stromal heterogeneity can potentially undermine robust patient classification when using a single biopsy.

My talk will focus on how molecular stratification in CRC has developed over recent year, with the aim of identifying critical points to be considered when translating these research-signatures into clinical practice.

### About the lecturer:



Dr. Philip Dunne is senior researcher with CCRCB, Queen's University Belfast, where he is carrying out cutting edge research in personalized medicine with a special emphasis on colorectal cancer. He has authored or co-authored more than 40 journal papers and has won several prestigious prizes, including the best scientific presentation at the European Alliance for Personalised Medicine Congress 2017.

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