Tuesday
April 27, 2021
15:00 (GMT+1)

Computational and Quantitative Biology Lecture Series

The seminar will be held on line using TEAMS. Please register at https://bit.ly/3x9yVzg
You will receive an invite with the link to the seminar.

Molecular and cellular predictors of response to cancer immunotherapy: beyond Tumour Mutational Burden

Despite the paradigm shift in cancer treatment introduced by immunotherapy, many patients still fail to benefit because of primary or acquired resistance. One of the few clinically approved predictors of response is the tumour mutational burden (TMB), which led to the FDA approval of immunotherapy to all cancers with more than 10 mutations per mega base pairs, irrespective of the site of origin. Still, TMB shows clear limitations. For example, only approximately 50% of colorectal cancers with a hypermutated phenotype show durable response. To dissect the cellular and molecular determinants of response to immunotherapy, we conducted an integrated molecular and cellular profile of colorectal cancer tissue and associated tumour microenvironment from patients treated with immunotherapy. In my talk, I will discuss the results of this study and will illustrate how the integration of multiple layers of molecular and cellular information can provide a better stratification of patients for clinical intervention.

Francesca Ciccarelli is Professor of Cancer Genomics at King's College London and Group Leader at the Francis Crick Institute. Francesca graduated in Pharmaceutical Chemistry at the University of Bologna and received a PhD in Natural Sciences from the University of Heidelberg where she worked under the supervision of Peer Bork at the EMBL. In 2005, Francesca started her independent research group at the European Institute of Oncology in Milan where she applied systems biology to study cancer. In 2014, she moved to King's College London and since 2017 her group is seconded to the Francis Crick Institute. Francesca is co-lead of the patient stratification theme of the Cancer Research UK KHP Centre and of the cancer evolution theme of the CRUK City of London Cancer Centre. Francesca works with a multidisciplinary team of biologists, mathematicians, oncologists, engineers and computer scientists who apply molecular genetics, genetic and imaging data analysis and theoretical modelling to study cancer biology and evolution. The work in her lab is supported by Cancer Research UK, King's Health Partners and the European Union.

Prof. Francesca Ciccarelli
King's College London
Group Leader, Cancer Systems Biology
The Francis Crick Institute

With the contribution of:

fondazione
biogem

Hosted by:

CQB PhD

DIE TI. UNI NA

Università degli Studi di Napoli Federico II