



2017 Joint Symposium

BHF Centre of Research Excellence and

EPSRC Centre for Mathematics of Precision Healthcare

The Heart – Models, Measurements, Medicine

5th June 2017

LT G16, Sir Alexander Fleming Building, South Kensington
Imperial College London, Prince Consort Rd, London SW7 2BB

Organisers: Prof Mauricio Barahona, Dr Declan P O'Regan and Prof Peter Weinberg

TIME	TITLE	Speaker/Organisation
09:00	Welcoming remarks	Prof Michael Schneider
SESSION 1: Cellular markers of heart development and disease		
Chair: Prof Michael Schneider		
09:05	'omics and single cell techniques for the characterisation of heart development and/or heart disease	Prof Jon Seidman (Harvard Medical School)
09:35	Computational Epigenetics	Dr Guido Sanguinetti (University of Edinburgh)
10:00	Single cell genomics	Dr Thierry Voet (Wellcome Trust Sanger Institute) & Dr Michela Nosedà (Imperial College London)
10:30	Computational methods for the analysis of single-cell 'omics datasets	Dr Martin Hemberg (Wellcome Trust Sanger Institute)
10:50	Characterize cellular reprogramming by extracting landscapes from integrated transcriptomic dataset	Zijing Liu (PhD student - Imperial College London)
11:05	BREAK	
SESSION 2: Cardiac tissue – maths, models and measurements for the clinic		
Chair: Prof Darrel Francis		
11:30	The ElectroCardioMaths (ECM) approach to cardiac arrhythmias	Prof Nicholas Peters (ECM, Imperial College London)
11:50	Clinical translation of heart models	Dr Steven Niederer (King's College London)

12:10	Modelling cardiac electrophysiology	Dr Chris Cantwell (ECM, Imperial College London)
12:30	The fractal heart	Dr Gaby Captur (University College London)
12:50	Cardiac ripple mapping	Dr Nick Linton (ECM, Imperial College NHS Trust)
13:10	Understanding the origins of the electrogram using machine learning	Konstantinos Tzortzis – BHF CRE Student (ECM, Imperial College London)
13:30	LUNCH AND POSTER SESSION	
SESSION 3: <i>Populations - Application of Mathematics to Medicine</i>		
Chair: Prof Paul Elliott		
14:30	Machine learning in cardiovascular medicine	Prof Daniel Rueckert (Imperial College London)
14:50	Quantitative modelling in pulmonary hypertension	Dr Andrew Swift (University of Sheffield)
15:10	Identifying actionable variants in cardiomyopathy	Roddy Walsh – PhD Student (Imperial College London)
15:25	Three-dimensional imaging-genetics	Carlo Biffi – BHF CRE Student (Imperial College London)
15:40	Guiding therapy using computational cardiac models	Dr Pablo Lamata de la Orden (King's College London)
16:00	BREAK	
SESSION 4: <i>Keynote Lecture</i>		
Chair: Prof Dorian Haskard		
16:30	Keynote lecture Will personalised genomic data lead to improved healthcare?	Prof Ewan Birney (European Bioinformatics Institute)
17:30	Announcement of Poster Prize Winners and Close of meeting	
17:45	DRINKS RECEPTION	