

Further Engagement with the Healthcare Sector

PROGRAMME

Tuesday 26th September 2017

12:00 – 13:00	Registration and Lunch	
13:00 – 13:10	Welcome and Introduction to Liverpool Centre for Mathematics in Healthcare	Professor Ke Chen, Liverpool Centre for Mathematics in Healthcare
13:10 – 13:20	Introduction to Theme 3: Modelling of spread and evolution of infectious diseases and complex networks	Dr Kieran Sharkey, Liverpool Centre for Mathematics in Healthcare
SESSION 1: Chaired by Dr Jonathan Read		
13:20 – 14:05	The dynamics of influenza infection and immunity	Professor Steven Riley, Imperial College
14:05 – 14:50	On the role of direct competition in shaping serotype coexistence and vaccine effects in <i>Streptococcus pneumoniae</i>	Dr Gabriela Gomes, Liverpool School of Tropical Medicine
14:50 – 15:20	Tea & Coffee Break	
SESSION 2: Chaired by Professor Sarah O’Brien		
15:20 – 16:05	Modelling the evolution of seasonal influenza	Dr Andrea Parisi, University of Lancaster
16:05 – 16:50	Epidemic modelling incorporating the genetic basis of antimicrobial resistance	Dr Kate Baker & Mr Christopher Overton, University of Liverpool
18:00	Workshop Dinner	

Wednesday 27th September 2017

8:45 – 9:00	Tea & Coffee Break	
SESSION 3: Chaired by Professor Ke Chen		
9:00 – 9:15	Introduction to Theme 1: Multi-scale systems in healthcare problems	Professor Alexander Movchan, Liverpool Centre for Mathematics in Healthcare
9:15 – 10:00	Waves and pulsating flow in stented blood vessels : localisation and resonance states	Professor Alexander Movchan, Liverpool Centre for Mathematics in Healthcare
10:00 – 10:45	Mathematical modelling to extract knowledge from data for healthcare applications in fertility research, endocrinology and cancer treatment	Professor Dave Smith, University of Birmingham
10:45 – 11:15	Tea & Coffee Break	
SESSION 4: Chaired by Professor Alexander Movchan		
11:15 – 12:00	Unravelling cell migration: from image analysis to mathematical modelling	Dr Feng Wei Yang, University of Sussex
12:00 – 12:20	Multi-scale modelling of ocular tissue for biomechanical applications	Mr Dong Zhou, University of Liverpool
12:20 – 13:20	Lunch	

13:20 – 13:25	Introduction to Theme 2: Imaging and data integration	Professor Ke Chen, Liverpool Centre for Mathematics in Healthcare
SESSION 5: Chaired by Dr Gabriela Czanner		
13:25 – 14:10	Predictive medicine for a better healthcare	Professor Damien Lacroix, University of Sheffield
14:10 – 14:55	Image-based multi-scale/physics modelling of human left ventricle	Dr Hao Gao, University of Glasgow
14:55 – 15:20	Tea & Coffee Break	
SESSION 6: Chaired by Dr Marta Garcia-Finana		
15:20 – 15:40	Multimodal image registration using the image derivatives and edge map	Dr Anis Theljani, Liverpool Centre for Mathematics in Healthcare
15:40 – 16:00	Variational Model for Diffeomorphic Image Registration	Mr Daoping Zhang, University of Liverpool
16:00 – 16:15	Effective 3D Organ Contouring on CT Images by Optimising Minimal Path Networks	Professor Ke Chen, Liverpool Centre for Mathematics in Healthcare
16:15 – 17:00	Music and mathematics interrogate brain tumour dissemination	Dr Rachel Bearon, Liverpool Centre for Mathematics in Healthcare