UGPN Interdisciplinary Doctoral Seminar 2015

From cells to societies: the roles of modelling in improving health outcomes

20-25 July 2015

Introduction

This five day research seminar will bring together PhD students and staff from the three founding members of the University Global Partnership Network - the University of São Paulo (USP), North Carolina State University (NC State) and the University of Surrey (Surrey). It will concentrate on the role of modelling in improving health outcomes. The provisional programme includes:

- Interactive sessions among seminar participants, designed to build an interdisciplinary network among students from three universities
- Presentations and discussions on modelling in molecular biology, systems biology, and transmission dynamics
- Group assignments on modelling

Location

University of Surrey, UK. Surrey is located in the town of Guildford, a 35 minute train ride from Central London.

Dates

The seminar will begin on Monday 20th July and conclude on Friday 24th July. There will be an optional off-campus trip to London on Saturday 25th July. Participants from USP and NC State are expected to arrive in the UK on Saturday 18th July and to depart on Sunday 26th July.

Seminar coordinators

The seminar is being organised by Surrey with the support of USP and NC State. The seminar coordinators at each university are:

- Surrey: Professor Johnjoe McFadden (j.mcfadden@surrey.ac.uk)
- USP: Professor Maurico Baptista (baptista@iq.usp.br)
- NC State: Professor Hien Tran (tran@ncsu.edu)

Provisional programme

DATE/TIME	EVENT	LOCATION
Saturday 18th July	Delegates arrive	
Sunday 19th July	Free day Tourist destinations include: London by train from Guildford station Travelcards can be bought at the station for approximately £25.00 Guildford town center – various shops, cafes and restaurants A guided historical tour commences under Tunsgate Arch (main high street) every Sunday at 2.30pm (http://www.guildfordwalks.org.uk/home.php)	
Monday 20th July	**Introductory Sessions** Welcome from Professor Johnjoe McFadden & Professor Vincent Emery (Surrey) Introductions by participants (NC State & USP) Introductions by participants (Surrey) Keynote speaker –Ebola/Tuberculosis Introduction to MatLab Introduction to Simbiology ***Evening meal at the Weyside Pub, Guildford***	
Tuesday 21st July	**Molecular modelling** '***Dynamical modelling of molecular networks'*** (Dr Andrea Rocco, Surrey) ***'Mechanistic modelling of genome scale molecular interaction networks'*** (Dr Andrzej M. Kierzek, Surrey) Group discussions Group assignment	

Wednesday 22nd July	**Healthcare modelling** '***Introduction to Epidemiology spatial modelling from individual patients to communities***' (Professor Simon Jones, Surrey) ***Making research questions policy-relevant: planning impact through national and international comparisons'*** *(*Professor Fabrizio Carinci, Surrey) Group discussions Group assignments
Thursday 23rd July	**Mathematical modelling** ***'Mathematical Modelling in Biology With Applications to PKPD and Enzyme Kinetics'*** (Dr Philip Aston, Surrey) ***'Modelling techniques for Biological Systems Sensitivity, Identifiability, Filtering and Optimal Control'*** (Professor Hien Tran, NCSU) Group discussions Group assignments
Friday 24th July	**Modelling in vaccines** ***'Systems Vaccinology: Enabling rational vaccine design with systems biological approaches'*** (Dr. Helder Nakaya, USP) Group assignment discussion Summary discussions/presentations ***Evening meal***
Saturday 25th July	***Visit to London*** Free afternoon

Costs

The costs of international and local travel and any group lunches / dinners will be covered by the UGPN partners. Participating students and staff will not be expected to cover any costs.

How to participate

Students and staff who would like to participate are asked to complete the application form and send this via email to the Coordinator at their home university no later than the 31st May 2015.