CRE RESPOND
CENTRE OF RESEARCH EXCELLENCE
Optimising and personalising antimicrobial dosing to reduce resistance

Antimicrobial Optimisation Workshop: Population pharmacokinetic modelling and dosing software

Venue: UQ Brisbane City, 308 Queen Street, Brisbane City
Date: Tuesday 5 March – Thursday 7 March 2024

Faculty & Tutors

- Prof Michael Neely, The University of Southern California, USA
- Prof Jason Roberts, The University of Queensland, Australia
- Dr Julian Otálvaro, The University of Southern California, USA
- Dr Suzanne Parker, The University of Queensland, Australia
- Dr Patty Mitre, The University of Queensland, Australia
- Dr Danny Tsai, The University of Queensland, Australia
- Dr Xin Liu, The University of Queensland, Australia
- Dr Tavey Dorofaeff, The University of Queensland, Australia
- Dr Aaron Heffernan, Griffith University, Australia
- Dr Fekade Sime, The University of Queensland, Australia

Course Objectives

- Define pharmacokinetic (PK) and pharmacokinetic/pharmacodynamic (PK/PD) structural models that can be solved analytically and models that require differential equations.
- Analyse PK and PK/PD datasets.
- Perform basic Monte Carlo simulations for PK and PK/PD analysis.
- Optimise dosing for an individual patient using dosing software.

This is an intensive three day course designed to teach population pharmacokinetic modelling and is suitable for health care practitioners involved in complex drug dosing including clinical pharmacists, infectious diseases physicians, intensive care physicians, transplant physicians and clinical pharmacologists. Also suitable for basic researchers including pharmacologists and translational scientists.

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Workshop Program

TUESDAY 5th MARCH: DAY 1 – Pharmacokinetic modelling		
08:00-08:25	Registrations	
08:25-08:35	Welcome	Prof. J Roberts & Dr. S Parker
08:35-09:00	Introduction to Pharmacometrics	Prof. Michael Neely
09:00-10:00	Review of pre-workshop tutorial	Dr Xin Liu
10:00-10:30	Morning Tea	
10:30-12:30	Fitting data to models in Pmetrics	Dr Julian Otálvaro
12:30-13:30	Lunch	
13:30-15:00	Details and plotting of Pmetrics objects	Dr Julian Otálvaro
15:00-15:30	Afternoon Tea	
15:30-16:30	Pmetrics modelling exercises*	Tutors

WEDNESDAY 6th MARCH: DAY 2 – Pharmacokinetic simulations / Pharmacodynamic modelling		
8:30-10:00	Simulating and probability of target attainment with Pmetrics	Dr Patty Mitre
10:00-10:30	Morning Tea	
10:30-12:00	Simulation exercises*	Tutors
12:00-13:00	Lunch	
13:00-14:00	Pharmacodynamic principles	Prof. Michael Neely
14:00-15:00	Building pharmacodynamic models	Dr Aaron Heffernan
15:00-15:30	Afternoon Tea	
15:30-16:30	Pharmacodynamic modelling exercises*	Tutors
17:30-20:00	Networking Dinner	Ciao Papi, Howard Smith Wharves

THURSDAY 7th MARCH: Day 3 - Software-based dose optimization		
8:30-10:00	Using BestDose	Prof. Michael Neely
10:00-10:30	Morning Tea	
10:30-12:00	BestDose Exercises *	Tutors
12:00-13:00	Lunch	
13:00-16:30	Work on your own data with Faculty available for questions	Tutors
14:00-14:15	CLOSING	Prof. J Roberts

*tutorial exercises

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