Workshop

Lyon, France

July 6-7, 2023

Crédit photo: Tristan Deschamps

Bridging microbiology and pharmacology: understanding Monte-Carlo simulations, Probability of Target Attainment, PK/PD breakpoints, and associated antibiotic dosages with Pmetrics

Organizers and sponsors

- Laboratory of Biometrics and Evolutionary Biology, University of Lyon, France
- University Hospitals of Lyon, Lyon France
- AP2POP association, Lyon, France
- Laboratory of Applied Pharmacokinetics and Bioinformatics, University of Southern California, Los Angeles, USA
- CRE RESPOND, University of Queensland, Brisbane, Australia

Faculty

- Michael Neely, Julian Otalvaro (USC)
- Sylvain Goutelle, Gérard Lina, Laurent Bourguignon, Romain Garreau (Lyon)
- Jean-Baptiste Woillard (Limoges)
- Anne-Grete Märtson (Liverpool)
- Jason Roberts, Xin Liu, Patty Mitre (UQ)

Workshop contacts

- Scientific contact: sylvain.goutelle@univ-lyon1.fr
- Secretariat: marc.grenet@univ-lyon1.fr

Venue: School of Medicine and Pharmacy, University Lyon 1, Rockefeller campus, 8 avenue Rockefeller, 69373 Lyon cedex 08, France

Target Audience: up to 30 physicians, pharmacists, clinical microbiologists, biomedical scientists or trainees with an interest in microbiology and pharmacology.

Workshop objectives

- Understanding the role of PK/PD in setting MIC breakpoints and associated antibiotic dosages
- Code a published population PK model into Pmetrics R package
- Run Monte-Carlo simulations with Pmetrics and analyze results for various dosage regimens
- Perform probability of target attainment (PTA) analysis with Pmetrics
- Identifying PK/PD breakpoints and associated standard and high dosages
- Assessing drug-related and patient-related factors influencing PTA and antibiotic dosages

Workshop agenda (may be subject to minor changes)

Thursday, 6 July 2023

10:00	Welcome and review of pre-workshop material
11:00	Course #1: Population PK models, nonlinear mixed-effects models
12:00	Lunch
13:15	Course #2 : Monte-Carlo simulations
14:15	Hands-on #1 : implementing a published model and running a Monte-Carlo simulation with Pmetrics
15:45	Coffee and tea break
16:15	Course #3: PK/PD targets, MIC distributions, MIC breakpoints of antimicrobials
17:00	Course #4: Probability of Target Attainment (PTA), Pharmacodynamic Index (PDI), Cumulative fraction of Response (CFR), and PK/PD breakpoints
17:30	Adjourn

Friday, 7 July 2023

8:30	Hands-on #2: computing PTA for a basic PK model with Pmetrics
10:00	Coffee and tea break
10:30	Course #5: drug-related and patients-related factors influencing PTA results
11:15	Hands-on #3: factors influencing PTA with Pmetrics
12:15	Lunch
13:30	Course #6: using PK/PD for defining standard and high dosage regimens
14:15	Hands-on #4: identifying effective dosages regimens for continuous and intermittent administration of a beta-lactam with Pmetrics
15:30	Wrap-up and Q&A
16:00	Adjourn

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REGISTRATION FORM

Please fill out, scan and e-mail this form to Marc Grenet marc.grenet@univ-lyon1.fr and contact@ap2pop.org.

If you claim for student registration (limited spots), join a copy of your 2022-2023 academic ID. Reservations will only be acknowledged and participation in the course guaranteed after receipt of both the registration form AND the registration fee.

Cancellation policy: there will be no refund of fees if registration is canceled 30 days or less before the course begins. Substitution of another person from the same organization is acceptable.

First name: _____ **Last name:** _____

Title/degree: _____ **Organization:** _____

Business address: _____

City: _____ **ZIP code:** _____

Country: _____ **Phone number:** _____

E-mail address: _____

Special diet: _____

Registration (includes workshop sessions, course material, lunches, coffee/tea breaks)

☐ Regular = 500 € ☐ Student = 350 €

Payment must be made by bank transfer to association AP2POP:

IBAN: FR76 1450 6000 2272 8319 7386 383 ; BIC: AGRIFRPP845

indicating “Workshop Lyon” and the participant’s name.