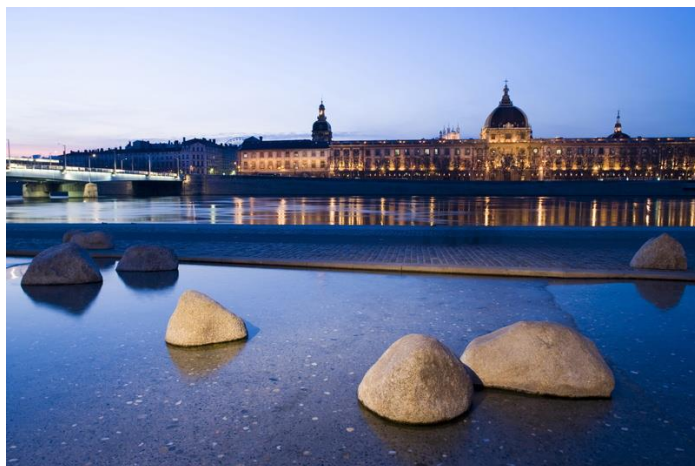


# Workshop

## 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](mailto:sylvain.goutelle@univ-lyon1.fr)
- Secretariat: [marc.grenet@univ-lyon1.fr](mailto: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



## Workshop –July 6-7, 2023 – Lyon, France

### REGISTRATION FORM

**Please fill out, scan and e-mail** this form to Marc Grenet [marc.grenet@univ-lyon1.fr](mailto:marc.grenet@univ-lyon1.fr) and [contact@ap2pop.org](mailto: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:

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