Advanced courses in pharmacometrics
General presentation

Contact director:
florence.gattacceca@univ-amu.fr

Faculté de Pharmacie de Marseille

January-June 2022

Faculté de Pharmacie
Aix*Marseille Université

CESU Fundamentals
Fundamentals for modeling and simulation in pharmacokinetics/pharmacodynamics

New in 2022!

\+

CESU PBPK
Advanced course in physiologically-based pharmacokinetic modeling

\+

CESU PopPK
Advanced course in population approaches in pharmacokinetics/pharmacodynamics

=

DESU PBPK
Modeling and simulation: physiologically-based pharmacokinetic modelling for pharmacology and toxicology

=

DESU PopPK
Modeling and simulation: population approaches in pharmacokinetics/pharmacodynamics

Admission requirements

- ✓ Completed master degree or equivalent diploma
- ✓ Student or professional in pharmaceutical, medical, biological or mathematical sciences
- ✓ General knowledge on pharmacokinetics
- ✓ For CESU PBPK and PopPK: validation of CESU fundamentals

Registration fees for 1 CESU (1 DESU = 2 CESU)

- ✓ 750 € for students
- ✓ 1500 € for professionals
- ✓ Possible to attend CESU Fundamentals only

CESU Fundamentals for modeling and simulation in pharmacokinetics/pharmacodynamics

Contact director:
florence.gattacceca@univ-amu.fr

Faculté de Pharmacie de Marseille

10 full days course (2 weeks)

January 10-14 and 24-28, 2022

Faculté de Pharmacie
Aix*Marseille Université

Lectures (50%)

- ✓ linear algebra, linear regression, non-linear regression, differential calculus
- ✓ model definition, identifiability, validation
- ✓ top-down versus bottom-up approaches
- ✓ usual pharmacokinetic and pharmacodynamic models (structure, stochastic, covariate)

Hands-ons (50%)

- ✓ data formatting and analysis with R
- ✓ non-compartmental and compartmental PK analysis with PKanalix
- ✓ usual PK and PD model development and validation with Monolix
- ✓ data simulation with Simulx and R

Remote teaching possible

Objective

being capable of understanding and evaluating pharmacometric studies, and to perform simple PK/PD analysis

CESU Advanced course in physiologically-based pharmacokinetic modeling

Contact director:
florence.gattacceca@univ-amu.fr

Faculté de Pharmacie de Marseille

10 full days course (2 weeks)

February 28-March 4 and March 14-18, 2022

Faculté de Pharmacie
Aix*Marseille Université

Lectures (50%)

- ✓ ADME parameters: evaluation *in vitro* and prediction *in silico*, chemical structure-properties relationships
- ✓ *in vitro/in vivo* extrapolation
- ✓ model optimization
- ✓ simulation, parameter-sensitivity analysis

Experts from private pharma and software companies

Hands-ons (50%)

- ✓ development of a PBPK model with Matlab and Berkeley-Madonna
- ✓ applications of GastroPlus, PKSim, Simcyp in drug development, dosing adjustment, trial simulation

Objective

being capable of accurately developing, applying and evaluating PBPK models

CESU Advanced course in population approaches in pharmacokinetics/pharmacodynamics

Contact director:
florence.gattacceca@univ-amu.fr

Faculté de Pharmacie de Marseille

10 full days course (2 weeks)

May 2-6 and 16-20, 2022

Faculté de Pharmacie
Aix*Marseille Université

Lectures (50%)

- ✓ statistical inference, algorithms
- ✓ complex pharmacokinetic, pharmacodynamic (efficacy, toxicity) and joint models
- ✓ advanced functions of population softwares
- ✓ parametric vs non-parametric modeling
- ✓ optimal design, simulations

Experts from private pharma and software companies

Hands-ons (50%)

- ✓ complex population PK, PD, joint models development and validation with Monolix, NONMEM, Phoenix, Pmetrics
- ✓ application of population models to therapeutic drug monitoring and trial simulation
- ✓ optimal design with PFIM

Objective

being capable of accurately performing, interpreting and evaluating complex PKPD models