

Professor Alain Bousquet-Melou and colleagues propose a new 5-day workshop on PK/PD modelling. The workshop will be held in Toulouse from Monday 27 June to Friday 1st July 2016. There is a maximum of 25 places available. Please find the provisional program [here](images/stories/PK2016/program_workshop2016_june.pdf "Program workshop PK 2016").

This 5-day workshop is designed for ECVPT residents, PhD students and professionals in academia, industry, or regulatory authorities, working in veterinary pharmacology who wish to improve their pharmacokinetic, toxicokinetic and pharmacodynamic modelling skills. The workshop includes a combination of lectures aiming at presenting key technical and theoretical modelling issues. The content presented and discussed in the lectures will then be illustrated by a series of computer-based hands-on case studies.

The hands-on exercises will be performed in round-table setting. All participants are required to bring their own laptop computer. The participants will be guided through the exercises by instructors with the help of an overhead projector. Active participation in discussions in class is essential.

If you are interested in attending please fill up the registration form available [here](images/stories/PK2016/registration_form_ecvpt_workshop_16_june.pdf "Registration form workshop PK 2016"). This is not a guarantee of a place at the workshop. Registration confirmation will be sent out and payment in full must be received 3 weeks before starting date.

<small>DAY1 - Monday</small>				
<small>08:30-9:00</small>				
<small>ALAIN BOUSQUET-MELOU</small>				
<small>09:00-10:30</small>				
<small>Lecture 1</small>				
<small>Linearity vs. Non-linearity & Linear vs. non-linear regression</small>				
<small>The goal is to introduce the main basic statistical concepts that will be used during the course.</small>				
<small>DIDIER CONCORDET</small>				

<p><small>10:30-11:00</p></small></p>		<p align="center"><small>Morning break, coffee</p></small></p>			
<p><small>11:00-12:00</p></small></p>		<p align="center"><small>Lecture 2</p></small></p>	<p><small>Bioanalytical method validation for pharmacokinetic studies; Statistical methods to test linearity, accuracy, precision, agreement of an analytical technique</p></small></p>		<p><small>Marlene LACROIX</p></small></p>
<p><small>12:00-13:30</p></small></p>		<p align="center"><small>Lunch</p></small></p>			
<p><small>13:30-15:00</p></small></p>		<p align="center"><small>Exercise 1</p></small></p>	<p><small>Working with different softwares: Introduction to Excel & Phoenix. Review of the Phoenix data processing, plotting, computation and exporting results in Excel and Words, templates</p></small></p>		<p><small>PIERRE-LOUIS TOUTAIN and others</p></small></p>
<p><small>15:00-16:00</p></small></p>		<p align="center"><small>Exercise 2</p></small></p>	<p><small>Validation of bioanalytical methods</p></small></p>		<p><small>Notion of residuals, weighting factors as proposed by Phoenix/WNL but also $1/X$ and $1/X^2$ using a user vector, back calculations, including with an equation having a quadratic components etc.</p></small></p>
<p><small>PIERRE-LOUIS TOUTAIN and Marlene LACROIX</p></small></p>		<p><small>Validation of bioanalytical methods</p></small></p>			

style="color: #000000; ">16:00-16:30</p> </td> <td colspan="3" width="88%" valign="top"> <p align="center">Afternoon♦ break, coffee</p> </td> </tr> <tr> <td colspan="2" width="11%" valign="top"> <p>16:30-18h</p> </td> <td width="10%" valign="top"> <p align="center">Exercise 2</p> </td> <td width="58%" valign="top"> <p>Continued</p> </td> <td width="19%" valign="top"></td> </tr> <tr> <td colspan="5" width="100%" valign="top"> <p align="center">DAY2 - Tuesday
</p> </td> </tr> <tr> <td colspan="2" width="11%" valign="top"> <p>8:30-10:00</p> </td> <td width="10%" valign="top"> <p align="center">Lecture 3</p> </td> <td width="58%" valign="top"> <p>Body clearance: an overview</p> </td> <td width="19%" valign="top"> <p>PIERRE-LOUIS TOUTAIN</p> </td> </tr> <tr> <td colspan="2" width="11%" valign="top"> <p>10:00-10:45</p> </td> <td width="10%" valign="top"> <p align="center">Lecture 4</p> </td> <td width="58%" valign="top"> <p>Half-life: an overview</p> </td> <td width="19%" valign="top"> <p>PIERRE-LOUIS TOUTAIN</p> </td> </tr> <tr> <td colspan="2" width="11%" valign="top"> <p>10:45-11:15</p> </td> <td colspan="3" width="88%" valign="top"> <p align="center">Morning break, coffee</p> </td> </tr> <tr> <td colspan="2" width="11%" valign="top"> <p>11:15-12:00</p> </td> <td width="10%" valign="top"> <p align="center">Lecture 5</p> </td> <td width="58%" valign="top"> <p>Volume of distribution: an

overview

	<p>ALAIN BOUSQUET-MELOU</p>
12:00-13:30	Lunch
13:30:14:30	lecture 6
14:30-15:00	Lecture 7
15:00-16:00	Exercise 3
16:00-16:30	Afternoon break, coffee

Bioavailability (rate and extent): protocols (plasma, urine, metabolites), estimation, interpretation

Modeling: goal, main concepts, usefulness, limits of different classes of PK models (The primary goal is to review 1- and multi-compartment models)

Phoenix WinNonlin: one compartment model, IV dosing and oral dosing

PIERRE-LOUIS TOUTAIN and others

#000000;">16:30-18:00</p> </td> <td width="10%" valign="top"> <p align="center">Exercise 3</p> </td> <td width="58%" valign="top"> <p>continued</p> </td> <td width="19%" valign="top"></td> </tr> <tr> <td colspan="5" width="100%" valign="top"> <p align="center">DAY3 - Wednesday
</p> </td> </tr> <tr> <td colspan="2" width="11%" valign="top"> <p>8:30-9:30</p> </td> <td width="10%" valign="top"> <p align="center">Lecture 8</p> </td> <td width="58%" valign="top"> <p>Estimation of Withdrawal times</p> </td> <td width="19%" valign="top"> <p>AUDE FERRAN</p> </td> </tr> <tr> <td colspan="2" width="11%" valign="top"> <p>9:30-10:30</p> </td> <td width="10%" valign="top"> <p align="center">Lecture 9</p> </td> <td width="58%" valign="top"> <p>Dose linearity vs. dose proportionality</p> </td> <td width="19%" valign="top"> <p>PIERRE-LOUIS TOUTAIN</p> </td> </tr> <tr> <td colspan="2" width="11%" valign="top"> <p>10:30-11:00</p> </td> <td colspan="3" width="88%" valign="top"> <p align="center">Morning break, coffee</p> </td> </tr> <tr> <td colspan="2" width="11%" valign="top"> <p>11:00-12:00</p> </td> <td width="10%" valign="top"> <p align="center">Exercise 4</p> </td> <td width="58%" valign="top"> <p>Computation of a withdrawal periodfor meat (EU approach) using the EMA software (WT 1.4 by P Heckman)</p> </td> <td width="19%" valign="top"> <p>PIERRE-LOUIS TOUTAIN and AUDE FERRAN</p> </td> </tr> <tr> <td colspan="2" width="11%" valign="top"> <p>12:00-13:30</p> </td> <td colspan="3" width="88%" valign="top">

width="88%" valign="top"> <p align="center">Lunch</p></td> <tr> <td colspan="2" width="11%" valign="top"> <p>13:30-15:00</p> </td> <td width="10%" valign="top"> <p align="center">Exercise 5</p> </td> <td width="58%" valign="top"> <p>Dose-linearity and dose-proportionality using a real data set.</p> </td> <td width="19%" valign="top"> <p>PIERRE-LOUIS TOUTAIN</p> </td> </tr> <tr> <td colspan="2" width="11%" valign="top"> <p>15:00-15:30</p> </td> <td colspan="3" width="88%" valign="top"> <p align="center">Afternoon ♦ break, coffee</p> </td> </tr> <tr> <td colspan="2" width="11%" valign="top"> <p>15:30-16:30</p> </td> <td width="10%" valign="top"> <p align="center">Lecture 10</p> </td> <td width="58%" valign="top"> <p>Non compartmental analysis</p> </td> <td width="19%" valign="top"> <p>ALAIN BOUSQUET-MELOU</p> </td> </tr> <tr> <td colspan="2" width="11%" valign="top"> <p>16:30-18:00</p> </td> <td width="10%" valign="top"> <p align="center">Exercise 6</p> </td> <td width="58%" valign="top"> <p>Non-compartmental analysis of the kinetic of drug disposition and physiological interpretation of the results</p> </td> <td width="19%" valign="top"> <p>ALAIN BOUSQUET-MELOU</p> </td> </tr> <tr> <td colspan="5" width="100%" valign="top"> <p align="center">DAY4 - Thursday
</p> </td> </tr> <tr> <td colspan="2" width="11%" valign="top"> <p>9:00-10:00</p> </td> <td width="10%" valign="top"> <p>Lecture 11</p> </td> <td width="58%" valign="top"> <p></p>

style="color: #000000;"/>**Bioequivalence** & presentation of the last veterinary EMA guideline:

<p>PIERRE-LOUIS TOUTAIN</p>	<p>10:00-10:30</p> <p align="center">Morning break, coffee</p>
<p>10:30-12:00</p> <p>Exercise 7</p>	<p align="center">Lunch</p>
<p>12:00-13:30</p> <p>13:30-16:00</p> <p>Exercise 8</p> <p>Use of Phoenix for more complex model analysis: The case of a One-compartmental model with Simultaneous IV, oral and IM dosing for a new antibiotic in pigs</p>	<p align="center">Afternoon break, coffee</p>
<p>16:00-16:30</p> <p>16:30-18:00</p> <p>Exercise 9</p>	

#000000;">Deconvolution analysis vs. modeling to document process of a drug absorption. How to simulate a single compartmental model with two rate constants of absorption (model build with differential equations) , introduction of a noise in the data set and how to use deconvolution to re-estimate the rate constant from the simulated data set</p> </td> <td width="19%" valign="top"> <p>PIERRE-LOUIS TOUTAIN</p> </td> </tr> <tr> <td width="11%" valign="top"> <p align="center">19:30</p> </td> <td colspan="4" width="88%" valign="top"> <p align="center">Workshop diner</p> </td> </tr> <tr> <td colspan="5" width="100%" valign="top"> <p align="center">DAY5 - Friday
</p> </td> </tr> <tr> <td colspan="2" width="11%" valign="top"> <p>09:00-10:00</p> </td> <td width="10%" valign="top"> <p>Lecture 12</p> </td> <td width="58%" valign="top"> <p>Plasma protein binding: an overview</p> </td> <td width="19%" valign="top"> <p>ALAIN BOUSQUET-MELOU</p> </td> </tr> <tr> <td colspan="2" width="11%" valign="top"> <p>10:00-10:30</p> </td> <td colspan="3" width="88%" valign="top"> <p align="center">Morning break, coffee</p> </td> </tr> <tr> <td colspan="2" width="11%" valign="top"> <p>10:30-12:00</p> </td> <td width="10%" valign="top"> <p>Exercise 10</p> </td> <td width="58%" valign="top"> <p>Estimation of Bmax, Kd and NS using linear and non-linear regression</p> </td> <td width="19%" valign="top"> <p>PIERRE-LOUIS TOUTAIN</p> </td> </tr> <tr> <td colspan="2" width="11%" valign="top"> <p>12:00-13:30</p> </td> <td colspan="3" width="88%" valign="top"> <p align="center">Lunch</p> </td> </tr> <tr> <td colspan="2" width="11%" valign="top"> <p></p>


```
#000000;">13:30-16:00</span></span></span></p> </td> <td width="10%" valign="top">
<p><span style="font-size: small;"><span style="font-size: small;"><span style="color:
#000000;">Exercise 11</span></span></span></p> </td> <td width="58%" valign="top">
<p><strong><span style="font-size: small;"><span style="font-size: small;"><span style="color:
#000000;">How to build a rather advanced model using the Graphical model editor of
Phoenix</span></span></span></strong></p> </td> <td width="19%" valign="top">
<p><span style="font-size: small;"><span style="font-size: small;"><span style="color:
#000000;">PIERRE-LOUIS TOUTAIN</span></span></span></p> </td> </tr> <tr> <td
colspan="2" width="11%" valign="top"> <p><span style="font-size: small;"><span
style="font-size: small;"><span style="color:
#000000;">16:00-16:30</span></span></span></p> </td> <td colspan="3" width="88%"
valign="top"> <p align="center"><span style="font-size: small;"><span style="font-size:
small;"><span style="color: #000000;">Afternoon♦ break, coffee</span></span></span></p>
</td> </tr> <tr> <td colspan="2" width="11%" valign="top"> <p><span style="font-size:
small;"><span style="font-size: small;"><span style="color:
#000000;">16:30-17:00</span></span></span></p> </td> <td width="10%"
valign="top"><span style="font-size: small;"><span style="color:
#000000;"></span></span></td> <td width="58%" valign="top"> <p><span style="font-size:
small;"><span style="font-size: small;"><span style="color: #000000;">End of the workshop and
debriefing</span></span></span></p> </td> <td width="19%" valign="top"> <p><span
style="font-size: small;"><span style="font-size: small;"><span style="color: #000000;">ALAIN
BOUSQUET-MELOU</span></span></span></p> </td> </tr> </table>
```