

## FACULTY Part I & II

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Merck Healthcare KGaA, Darmstadt/Germany

## INFORMATION

**Venue** Online Course @  
,Microsoft Teams'  
-you will receive your personal login data-

**Requirement** Please download the Desktop App  
when you are asked

**Date** **Part II**  
11-12 November 2021  
15-16 November 2021

**Fees** **Part II (4 days)**  
  
1.000 EUR Member\*  
1.350 EUR Non Member

\*of AGAH, AHPPI, AFPT-CPI, ACCP,  
EUFEMED

Special fees for students are available  
on request.

Minimum number of participants 10 guests  
Registration deadline Part II: 10/28/2021

[Registration \(engl.\)](#)

## CONTACT AND FURTHER INFORMATION

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**AGAH**

Arbeitsgemeinschaft  
für angewandte  
Humanpharmakologie e.V.

Association for Applied  
Human Pharmacology

**INTRODUCTORY COURSE  
IN EXPLORATORY MEDICINES DEVELOPMENT**

**PART II**

**-ONLINE COURSE-**

**11-12 November and**

**15-16 November 2021**

Die Inhalte der Fortbildungsmaßnahme sind produkt- und/oder dienstleistungsneutral gestaltet. Potenzielle Interessenkonflikte der Referierenden werden in einer Selbstauskunft gegenüber den Teilnehmenden offen gelegt werden. Der Introductory Course Part I + II ist eine Eigenveranstaltung der AGAH e. V. und wird nicht durch Sponsoring finanziert. Die Höhe der Gesamtaufwendungen

beträgt ca. 20.000 € für die Ausrichtung.

**PharmaTrain**  
MASTERING MEDICINES DEVELOPMENT  
COURSE RECOGNITION

**EUFEMED**  
EUROPEAN FEDERATION  
FOR EXPLORATORY  
MEDICINES DEVELOPMENT

## INTRODUCTION AND LEARNING OUTCOMES

This course addresses postgraduates in life sciences interested in early clinical development of medicinal products. Two training parts of 3 days each provide a concise overview on Human Pharmacology / Translational Medicine spanning from non-clinical pharmacology and toxicology over first-in-man studies to proof-of-concept clinical trials.

### Learning Outcomes

On successful completion of Part II, students should be able to demonstrate an understanding / knowledge of the following:

- nonclinical pharmacology and toxicology
- molecular basis of drug actions
- allometric scaling and dose proportionality assessments based on characteristic PK data
- defining pharmacodynamic (PD) endpoints and biomarkers
- differentiating between primary and secondary PK and PD endpoints
- How to design an early clinical pharmacology development plan
- planning and management of a first-in-man trial
- principles of data management and information flow
- principles of reporting and publication
- principles of medical statistics
- characteristic issues involved in the development of biologicals and biosimilars

This AGAH course meets the standards for high-quality postgraduate education and training in Medicines Development established by PharmaTrain and has been awarded a PharmaTrain Recognition. The course was accredited 3 ECTS (Parts I plus II).

## Day 1 · THURSDAY, 11 November 2021

|   |   |
|---|---|
| from 08:45  | Dial-in   |
| 09:00 - 09:15   | Introduction of faculty and participants  |
| 09:15 - 10:45<br>5' break after 45'                         | <b>Molecular basis of drug action:</b><br>Receptor pharmacology, agonists, antagonists, second messengers, enzymes, regulatory proteins, transcription factors, cellular sites of drug actions<br><i>Martin Coenen</i>  |
| 10:45 - 11:00   | Break   |
| 11:00 - 13:00<br>5' break after 60'                         | <b>Pharmacokinetics III:</b><br>PK linearity / non-linearity / dose proportionality assessments, biopharmaceutics classification system (BCS), absorption half-life, flip-flop kinetics, protein binding, 14C-studies (mass-balance studies), allometric scaling<br><i>Andreas Kovar</i>  |
| 13:00 - 13:45   | Break   |
| 13:45 - 17:30<br>5' break every 60'<br>15' break after 120' | <b>Assessment of non-clinical data and risk as prerequisites before administration to man:</b> Compound selection, early in vivo studies including primary and secondary pharmacodynamics and -kinetics, safety pharmacology, general toxicology in various species (rodents, non-rodents) including NOEL/NOAEL and MTD, safety ratio, toxicokinetics, genotoxicity, immunotoxicity, local tolerance, phototoxicity<br><i>Stephanie Plassmann</i> |

## Day 2 · FRIDAY, 12 November 2021

|                                     |  |
|-------------------------------------|--|
| 09:00 - 11:00<br>5' break after 60' | <b>Assessment of non-clinical data and risk as prerequisites before administration to man</b> (continuation of Day 1)<br><i>Stephanie Plassmann</i>            |
| 11:00 - 11:15                       | Break  |
| 11:15 - 11:45                       | <b>The revised EMA guideline on early phase clinical trials – key elements</b><br><i>Kerstin Breithaupt-Grögler</i>  |
| 11:45 - 13:00                       | <b>How to determine a safe starting dose for first-in-human?</b> Key safety parameters, case study developed in break-out groups<br><i>Stephanie Plassmann</i> |
| 13:00 - 13:45                       | Break  |

|                    |  |
|--------------------|--|
| 13:45 - 15:15      | <b>How to determine a safe starting dose for first-in-human?</b> Presentations of case study<br><i>Stephanie Plassmann</i> |
| 15:15 - 15:30      | Break  |
| 15:30 - 16:15      | <b>Stop dose escalation or continue dosing?</b><br>Introduction to case study<br><i>Katharina Erb-Zohar</i>                |
| Mandatory Homework | <b>Stop dose escalation or continue dosing?</b><br>Case study developed in break-out groups                                |

## Day 3 · MONDAY, 15 November 2021

|               |  |
|---------------|--|
| 09:00 - 10:00 | <b>Stop dose escalation or continue dosing?</b><br>Presentation of case studies<br><i>Katharina Erb-Zohar</i>  |
| 10:00 - 11:30 | <b>How to design an early clinical pharmacology development program?</b><br>Basic concepts of early phase trials supporting early clinical development and decision making: how to design the first-in-human trial? how to proceed from single to multiple ascending dose? which questions needs to be answered prior to further clinical development?, including case study<br><i>Jens Rengelshausen</i><br><i>Kerstin Breithaupt-Grögler</i> |
| 11:30 - 11:45 | Break  |
| 11:45 - 13:15 | <b>How to design an early clinical pharmacology development program?</b> (continued)<br><i>Kerstin Breithaupt-Grögler</i><br><i>Jens Rengelshausen</i>   |
| 13:15 - 14:00 | Break  |
| 14:00 - 15:00 | <b>Bioequivalence trials:</b><br>How to do it right – planning a successful BE trial<br><i>Barbara Schug</i>   |
| 15:00 - 15:15 | <b>Q&amp;A session regarding method validation</b> (pre-reading of slides required)  |
| 15:15 - 15:30 | Break  |

|                                    |  |
|------------------------------------|--|
| 15:30 - 17:15<br>5'break after 60' | <b>Pharmacodynamic endpoints and biomarker:</b> Biomarkers for stratified medicine, companion diagnostics and proof of concept; biomarkers and PD endpoints in oncology, diabetes, cardiovascular diseases, cardiac safety and in pain<br><i>Jens Rengelshausen</i><br><i>Michael Zühlendorf</i> |
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## Day 4 · TUESDAY, 16 November 2021

|                                     |  |
|-------------------------------------|--|
| 09:00 -10:00                        | <b>Data management:</b><br>Principles, electronic / paper CRFs, queries, data cleaning, data base closure<br><i>Manfred Wargenau</i>   |
| 10:00 - 10:15                       | Break  |
| 10:15 - 11:15                       | <b>Monitoring and Auditing -</b><br>An essential tool to ensure credibility of data<br><i>tba</i>  |
| 11:15 - 11:30                       | Break  |
| 11:30 - 13:15<br>5' break after 60' | <b>Analysis of early exploratory development studies - principles of medical statistics:</b><br>Differences between treatments regarding biomarkers, pharmacokinetic / -dynamic effects, safety, parametric vs. non-parametric analysis, t-tests, repeated measures ANOVA, parametric vs. non-parametric analysis, Chi-square, Fisher's exact<br><i>Manfred Wargenau</i> |
| 13:15 - 14:00                       | Break  |
| 14:00 - 15:00                       | <b>Analysis of early exploratory development studies - principles of medical statistics</b> (continued)<br><i>Manfred Wargenau</i>   |
| 15:00 - 15:15                       | Break  |
| 15:15 - 15:30                       | <b>Q&amp;A session regarding report writing</b> (pre-reading of slides required)<br><i>Kerstin Breithaupt-Grögler</i>  |
| 15:30 - 17:00                       | <b>Introduction to biologicals and biosimilars</b><br><i>Barbara Schug</i>   |
| 17:00 - 17:15                       | <b>Feed back and end of Part II</b>  |
| 17:30 - 18:30                       | <b>Mandatory Test on Part II via Survey</b> (within 1 hour, 60 % of questions must be correctly answered to pass test and receive a certificate)   |