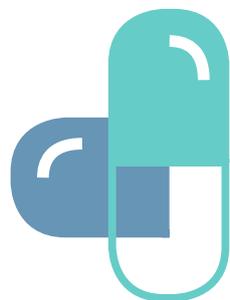


Hybrid format enabling virtual attendance!

Programme includes ICH M12 (DDI) presentations



13th International Workshop on
Regulatory Requirements and
Current Scientific Aspects of the
Preclinical and Clinical Investiga-
tion of Drug-Drug Interactions

Why You Should Attend

- **Become familiarized** with pharmacodynamic drug interactions and implications for combination therapy
 - **Get comprehensive perspective** of the ICH M12 drug interaction guideline from regulatory and industry angles
 - **Build up knowledge** on biomarkers for detecting clinical DDIs
 - **Become familiar** with the potential role of liquid biopsy in assessing the induction/suppression of enzymes and transporters
 - **See what is behind the smoke-screen** when it comes to methodological aspects of smoking interaction and implications of past practices for future clinical or virtual trials
 - **Reflect and compare methodological standards** of food effect studies vs smoking interaction studies
 - **Update yourself on FDA scientific efforts** in the investigation of excipient drug interactions
 - **Be informed about** the DDI potential of major pharmaceutical excipients on transporters and enzymes
 - **Get an overview of 2022 NDA Reviews:** Understand the risk of metabolism- and transporter-based DDIs with novel drugs approved by the US FDA
 - **Hear about the latest update** on the PBPK model repository
- ... and most importantly meet, discuss and network with a unique community of scientific and regulatory experts from pharmaceutical and contract research-industries, international regulatory bodies, non-government organizations and academia.



Image: Marbach Castle Conference Center



Image: Marbach Castle Conference Center



Mission Statement

The DDI workshop series is a non-profit programme to exchange research-based knowledge on drug-drug interactions (DDIs) among all interested stakeholders from pharmaceutical industry, regulatory authorities, academic and health care delivery backgrounds and perspectives.

The overall objective of the International Marbach Castle DDI Workshop series is to disseminate the scientific knowledge about drug-drug interactions (incl. food-drug and herb-drug interactions), and to foster communication for efficient preclinical and clinical investigation of DDIs.

The goal is continuous improvement of the safe use of drugs in the light of increasing poly-pharmacotherapy in particular in ageing and multi-morbid populations.

Background, Scope and Aim

In June 2010, the International Workshop on Regulatory Requirements and Current Scientific Aspects on the Preclinical and Clinical Investigation of DDIs was held for the first time. The workshop was based on an initiative of experts in the field from academia, consultancy, software and pharmaceutical industry, intrigued by the notion that the field of DDIs is getting increasingly important and complex in view of continuously emerging new therapies, new drug combinations, complex treatment algorithms for many widespread diseases and ageing populations. These factors converge into poly-pharmacotherapy with an increasing risk of clinically significant DDIs. Therefore, the early recognition, meticulous clinical investigation, and informative labelling of DDIs represent substantial challenges for the pharmaceutical industry and regulatory bodies in the development, approval and post-marketing surveillance of new medicines.

Failures in the early recognition, mechanistic elucidation (i.e. understanding) and proper clinical management of DDIs, in turn, have resulted in numerous drug withdrawals from the market in the past and continue to result in a significant health burden to patients as well as an economic burden on healthcare systems, rendering many DDIs serious public safety concerns. More details on the Workshop history have been published recently:

Derendorf H, von Richter O, Hermann R, Rostami-Hodjegan A. Drug-Drug Interactions: Progress Over the Past Decade and Looking Ahead to the Future. *Clin Pharmacol Ther.* 2019; 105:1289-1291.

Today, DDIs can be addressed in a more targeted and evidence-based fashion, because considerable progress has been made in the understanding of the underlying mechanisms of DDIs and the associated development of methodologies for the investigation of DDI susceptibility, and the extrapolation of outcomes of particular DDIs to other drug combinations. Apart from metabolism based DDIs, transporter based DDIs, DDIs involving therapeutic proteins, tools extrapolating in vitro results to predict clinical outcomes in vivo (IVIVE) as well as information technology guiding the detection and management of DDIs have gained more importance over recent years. Furthermore, pharmacodynamic DDIs have gained increasing interest given the steady increase in drug combinations in clinical development.

Since its inception in 2010, the International Marbach Castle DDI Workshop has been designed to comprise all of the elements above, to foster discussions and exchanges of views for providing a holistic perspective on the complex field of drug-drug interactions.

Robert Hermann MD, FCP
Amin Rostami-Hodjegan, PhD, FCP
Ping Zhao, PhD



The Workshop Programme 2023

In its 13th year, and as we return to face-to-face modality for second time after one-year COVID downtime, the Workshop will cover a number of highly important and current DDI topics in depth.

The 2023 Workshop will open with a plenary lecture on pharmacodynamic (PD) drug interactions and whether these could be predicted from the first principles under the framework of 'Model-Informed Drug Development' (MIDD). This will be followed by a talk presenting selected examples of PD interactions of clinical importance.

The second session will be entirely dedicated to the recently issued first draft version of the International Council for Harmonization (ICH) drug interaction guideline M12. Attendees will hear separate talks on the in vitro and in vivo aspects of the guideline. In addition, a representative on behalf of IQ, will present the industry perspective on the current version of ICH M12 and links with ongoing debates over ICH M13 on modelling. Finally, a panel discussion with representatives from various regulatory bodies will complete the session, and is expected to bring valuable insights into regulatory thoughts towards global harmonization.

The third session on Day 1 of the meeting will feature for the first time the emerging topic of biomarkers for detection of clinical DDIs. Specifically addressed will be biomarkers reflecting DDIs affecting OATP transporters, and the role of liquid biopsy in assessing the induction / suppression of enzymes and drug transporters. Finally, a general overview will be presented to review where we currently are in the field of DDI biomarkers, and to shed light on what has been settled yet, and what has not. This talk will also address the specificity and feasibility of developing tools to identify biomarkers for the detection of DDIs.

On Day 2 of the Workshop for the first time a session will be dedicated to the rarely acknowledged field of

smoking interaction studies. The key talk of this session will comprehensively review methodological aspects of smoking interaction studies that have been applied over the last three decades, and will discuss implications for future smoking interaction trials.

A following panel discussion will reflect and compare methodological standards of food effect studies vs. smoking interaction studies, thereby highlighting important differences.

The second session on Day 2 of the meeting will address DDIs that are caused by pharmaceutical excipients. The first talk will present information on FDA scientific efforts on the investigation of excipient DDIs, while the following talk will share existing industry experience. The last talk of this session will provide an overview on the DDI potential of major pharmaceutical excipients on transporters and enzymes.

Another regulatory session will conclude Day 2 of the Workshop. The first talk of this session will provide an overview of 2022 NDA reviews with the aim to foster understanding of the risks of metabolism- and transporter-based DDIs with novel drugs approved by the US FDA. The final talk of the meeting will provide an update on the current PBPK model repository.

As always, there will be an opportunity for Workshop participants to submit abstracts for poster presentations throughout the Workshop.

All sessions will provide plenty of opportunity for scientific and regulatory exchange and networking.

As always, the topics of the 13th international DDI Workshop will be covered by distinguished international scientists, representatives from various national regulatory agencies, and experts from academia, pharmaceutical companies, contract research organizations as well.

The Workshop Organizers



Robert Hermann, MD, FCP



Amin Rostami-Hodjegan, PhD, FCP



Ping Zhao, PhD



Image: Marbach Castle Conference Center

Sunday, June 4th, 2023

Afternoon	Individual Arrival & Check-in at Marbach Castle
03:00 p.m.	Registration & Coffee
04:00 p.m.	Come Together Activities – TBD Poster Session – TBD
07:30 p.m.	Come Together Dinner

Monday, June 5th, 2023

08:00 – 08:30 a.m.	Registration & Coffee
08:30 – 08:45 a.m.	Welcome Address and Introduction into the Workshop <i>Amin Rostami</i>
Session I	Pharmacodynamic Interactions <i>Chair: Amin Rostami</i>
08:45 – 09:15 a.m.	Plenary Lecture on PD Interactions <i>Donald E. Mager, PharmD, PhD, Department of Pharmaceutical Sciences, University of Buffalo; Buffalo, USA</i>
09:15 – 09:25 a.m.	<i>Discussion</i>
09:25 – 09:55 a.m.	A Systems Approach to PD Interactions: Implications for Combination Therapy <i>Luca Marchetti, PhD, Fondazione The Microsoft Research - University of Trento, Centre for Computational and Systems Biology (COSBI), University of Trento, Italy</i>
09:55 – 10:05 a.m.	<i>Discussion</i>
10:05 – 10:30 a.m.	Coffee Break
Session II	ICH M12 <i>Chair: Ping Zhao</i>
10:30 – 11:00 a.m.	In Vitro Aspects of ICH M12, Industry and Technology <i>Brian Ogilvie, PhD, BioIVT/Xenotech, Kansas City, KS, USA</i>
11:00 – 11:10 a.m.	<i>Discussion</i>
11:10 – 11:40 a.m.	In Vivo Aspect of ICH M12, Regulatory Input <i>Raj Madabushi, PhD, Office of Clinical Pharmacology, Center for Drug Evaluation and Research, FDA, Silver Spring, MD, USA</i>
11:40 – 11:50 a.m.	<i>Discussion</i>
11:50 – 12:20 p.m.	Representative on Behalf of IQ, Industry Perspective <i>Vikram Sinha, PhD, Global Head, Therapeutic Areas PK Sciences / Translational Medicine, Novartis Institute of Biomedical Research (NIBR), Novartis Pharmaceuticals, Berwyn, PA, USA</i>
12:20 – 12:30 p.m.	<i>Discussion</i>
12:30 – 02:00 p.m.	Lunch Break

Monday, June 5th, 2023 (continued)	
Session II	ICH M12 (ctd) <i>Chair: Ping Zhao</i>
02:00 – 02:30 p.m.	Panel Discussion on ICH M12 <i>Regulatory Attendees</i>
02:30 – 03:00 p.m.	Coffee Break
Session III	Biomarkers for Detecting Clinical DDIs <i>Chair: Amin Rostami</i>
03:00 – 03:30 p.m.	Industry Applications and Kinetic Considerations of Transporter Endogenous Biomarkers <i>Kenta Yoshida, PhD, Genentech, USA</i>
03:30 – 03:40 p.m.	<i>Discussion</i>
03:40 – 04:10 p.m.	Where Are We in DDI Biomarkers? What Has Been Settled and What Has Not? Specificity and Feasibility of Developing Tools to Identify DDIs <i>Andrew Parkinson, PhD, XPD Consulting, Shawnee, Kansas, USA</i>
04:10 – 04:20 p.m.	<i>Discussion</i>
06:00 p.m.	Dinner

Tuesday, June 6st, 2022	
Session III	Biomarkers for Detecting Clinical DDIs (ctd) <i>Chair: Amin Rostami</i>
09:00 – 09:30 a.m.	Role of Liquid Biopsy in Assessing the Induction / Suppression of Enzymes and Transporters <i>Andrew Rowland, PhD, BSc, Flinders University, Adelaide, Australia</i>
09:30 – 09:40 a.m.	<i>Discussion</i>
Session IV	Smoking Interactions <i>Chair: Robert Hermann</i>
09:40 – 10:10 a.m.	Important Methodological Aspects of Smoking Interaction Studies – Review of Three Decades of Literature <i>Isabelle Ragueneau-Majlessi, MD, Drug Interaction Solutions, University of Washington, Seattle, WA, USA</i>
10:10 – 10:20 a.m.	<i>Discussion</i>
10:20 – 10:50 a.m.	Reflecting Methodological Standards of Food Effect Studies vs Smoking Interaction Studies <i>Panel Discussion</i>
10:50 – 11:10 a.m.	Coffee Break

Tuesday, June 6st, 2022 (continued)

Session V	Excipient DDIs Chair: Amin Rostami
11:10 – 11:40 a.m.	FDA Scientific Efforts on Investigating Excipient-Drug Interactions Lei Zhang, PhD, Office of Generic Drugs, FDA, Silver Spring, MD 20993, USA
11:40 – 11:50 a.m.	Discussion
11:50 – 12:20 p.m.	Industry Experience Yuan Chen, PhD, Genentech, South San Francisco, CA, USA
12:20 – 12:30 p.m.	Discussion
12:30 – 02:00 p.m.	Lunch
02:00 – 02:30 p.m.	DDI Potential of Major Pharmaceutical Excipients on Transporters and Enzymes Mark S Warren, PhD, BioIVT, Santa Clara, CA, USA
02:30 – 02:40 p.m.	Discussion
Session VI	Regulatory Session Chair: Ping Zhao
02:40 – 03:10 p.m.	Overview of 2022 NDA Reviews: Understanding the Risk of Metabolism- and Transporter-Based Drug-Drug Interactions with Novel Drugs Approved by the US FDA Jingjing Yu, MD, PhD, Drug Interaction Solutions, School of Pharmacy, University of Washington, Seattle, WA, USA
03:10 – 03:20 p.m.	Discussion
03:20 – 03:40 p.m.	Coffee Break
03:40 – 04:10 p.m.	PBPK Model Repository and Implications for Facilitating Model Reusability Ping Zhao, PhD, Bill and Melinda Gates Foundation, Seattle WA, USA
04:10 – 04:20 p.m.	Discussion
04:20 – 04:30 p.m.	Concluding Remarks – Ping Zhao End of Meeting & Departure

Who Should Attend?

This international Workshop on drug-drug interactions is designed to meet the requirements and expectations of professionals from the pharmaceutical industry, contract research organisations, regulatory agencies and academia.

Department heads, project managers, scientists and consultants in R&D, in regulatory affairs, pharmacokinetics, clinical pharmacology, exploratory/translational medicine, clinical development, drug safety, biostatistics, business development, medical communications and so forth should attend. All delegates are invited to contribute actively to the scientific discussions.

Language

English will be the language of the Workshop. No simultaneous translation will be provided.

Venue & Location

The Workshop will take place at the Marbach Castle Conference Centre (see the following web site: <http://www.schlossmarbach.de>) located close to the Swiss border amidst the beautiful surrounding of the Western shore of Lake Constance in close proximity to the historic town of Stein am Rhein. The old town centre

of Stein am Rhein is characterised by striking medieval buildings such as the City Church, the former Monastery of St. Georgen, burghers' houses, gates and towers, as well as buildings dating from the early modern age, including the Town Hall and the Arsenal.

Marbach Castle is within easy reach of the major cities in the area (Zurich, Basel, Stuttgart,). The distance to Zurich International Airport (ZRH) is about 60 kilometres.

Ground Transport from Zurich Int, Airport to Marbach Castle

Because of the increasing unreliability and unpunctuality of flight traffic as a consequence of the Covid-19 pandemic, it has turned out that organisation of taxi shuttles is unfortunately no longer practically feasible under these circumstances.

As most suitable and flexible option it is therefore recommended to using the train from Zurich Airport to either Singen am Hohentwiel or Radolfzell am Bodensee (one train change in Winterthur).

There are a total of 85 connections per day from Zurich Airport to Singen am Hohentwiel. The train departs in Zurich every 10 minutes and the connecting train in Winterthur every 40 minutes; the shortest

travel time to Singen is 55 minutes the travel time to Radolfzell about 10 minutes longer. The average travel time is about 1.3 hours; ticket prices may range between 20 to 34 €.

The distance from the station in Singen am Hohentwiel to Marbach Castle is about 21 km, travel time by taxi is about 25 minutes.

The distance from the station in Radolfzell am Bodensee to Marbach Castle is about 20 km, travel time by taxi is about 20 minutes. Alternatively, a bus can be taken from the train station Radolfzell to Marbach Castle. The bus leaves every 30 minutes and travel time is about 30 minutes.

Prices for a Swiss taxi from Zurich Int. Airport to Marbach Castle may range between 150 to 250 CHF, travel time is about 1 hour (63 km). Alternatively one may consider using a rental car from the airport.

Poster Presentations

As always, there will be an opportunity for Workshop participants to submit abstracts for poster presentations throughout the Workshop.



Image: Marbach Castle Conference Center

Date, Time and Venue

Date	Workshop June, 4th to 6th, 2023	
Venue	Marbach Castle, D-78337 Öhningen +49 (0)7735 – 8130, info@schlossmarbach.de	
Times	June 4th 2023 Afternoon Individual arrival, come together, come together activity, come together dinner, Social Event (Details to be Determined)	
	Scientific Programme	
	June 5 th 2023	Start 08.30 a.m. – Finish 04.20 p.m.
	June 6 th 2023	Start 09.00 a.m. – Finish 04.30 p.m.
Registration & Coffee	June 4 th 2023	03.00 p.m.
	June 5 th 2023	08.00 a.m.

Register Online for Workshop and News Feed
www.ddi-workshop-marbach.org

Registration

Considering the still ongoing uncertainties around the course of the Covid-19 pandemic, we are planning for a “hybrid” meeting. Also for the 2023 Workshop this means that speakers and attendees will have the opportunity to opt by certain date (see below) between attendance in person at Marbach Castle or for a virtual attendance via video conference (Zooms).

There are several factors which are beyond our control. These include rules and requirements of local authorities on size of the gatherings for meetings, as well as international and company guidelines governing travel. In case that any of such restrictions will still be in place by end of May, thereby precluding a gathering of a meaningful number of attendees at Marbach Castle, the entire Workshop will be held as a virtual meeting.

Registration for Physical Attendance at Marbach Castle

Keeping with the tradition of the Marbach event in the past, to maintain the tradition of Marbach DDI Workshop that assures optimal scientific exchange and interaction at personal level, we limit the number of participants to about 70. Therefore, early registration is recommended, to assure your place at the Workshop. In case the meeting is fully booked, a “standby” registration option will be considered which may come into effect in case of cancellations.

Registration for Virtual Conference Attendance

Because of the ongoing Covid-19 pandemic, registration for a web-based virtual conference attendance on June 5th and June 6th, is possible for the Workshop 2023. Only 2-day registrations for the entire event will be accepted. The fees for the virtual conference attendance will

be about 50% of the fees applicable for the physical 2-day attendance at Marbach Castle. The number of virtual conference attendees is limited to 100.

Registration Formalities and Procedures

Workshop participation will be assigned in the sequence of receipt of registration applications. Full confirmation of registration, however, will only be granted upon complete receipt of the Workshop fees, which become payable within 3 weeks after submission of the registration application.

You may register via the Workshop Secretary by:

- ✉ E-Mail: secretary@ddi-workshop-marbach.org
- ☎ Fax: +49(0)6051-97 166 93

or by using the registration form below.

Registration Form

Workshop Fee (incl. Lunch, Dinner & Coffee Breaks, incl. 19 % VAT)

3-Day Participation from June 4 th to June 6 th , 2023	2.250,00 €	<input type="checkbox"/>
3-Day Participation from June 4 th to June 6 th , 2023, (for members of ACCP or DMDG)	2.150,00 €	<input type="checkbox"/>
2-Day Participation on June 5 th and June 6 th , 2023 only	2.150,00 €	<input type="checkbox"/>
2-Day Participation on June 5 th and June 6 th , 2023 only, (in combination with discounted rate for members of ACCP or DMDG)	2.050,00 €	<input type="checkbox"/>
2-Day Participation Virtual Conference on June 5 th and June 6 th , 2023	1.250,00 €	<input type="checkbox"/>

Accommodation (incl. Breakfast and 19 % VAT)

A limited number of bedrooms are available at Marbach Castle (further Hotel capacities in close proximity available upon request):

	1 night	2 nights
Category A: single room (215,00 € per night)	<input type="checkbox"/>	<input type="checkbox"/>
double room (295,00 € per night)	<input type="checkbox"/>	<input type="checkbox"/>
Category B: single room (142,00 € per night)	<input type="checkbox"/>	<input type="checkbox"/>
double room (222,00 € per night)	<input type="checkbox"/>	<input type="checkbox"/>
No hotel accommodation required:		<input type="checkbox"/>

A 100 € early bird rebate can be discounted from the invoice in case that payments are executed within 30 days of registration **and before March 31st**.

Please print your details

Salutation (Mr/Ms)	City
Title	Postal Code
First name	Country
Family name	Phone
Position	Fax
Department	E-Mail
Company	Date
Address	Signature

You may register by

Internet

www.ddi-workshop-marbach.org

E-mail

secretary@ddi-workshop-marbach.org

Fax

+49(0)6051-97 166 93

For further information please contact Karen Grave-Hermann.

E-mail: secretary@ddi-workshop-marbach.org

Phone: +49(0)6051-97 166 91

Cancellation Policy

- More than 60 days prior to the Workshop: Cancellation fee of 200,00 €.
- Within 31 – 59 days prior to the Workshop: 50 % of the fee.
- Less than 30 days or if no notification received: Registrant liable to pay FULL Workshop fee.



Image: Marbach Castle Conference Center

European Protection Law (EDPL)

By filling out the registration form, the participant gives consent to the DDI Workshop Faculty to process the data provided within the framework of the conference and in compliance with the EDPL Legislation. This includes the following, unless registered participants object:

- All personal details needed for the applicant's participation at the event - invoicing, participant list, Certificate of Attendance, contact about the registration, specific diet information, etc
- Pictures taken during the conference:
 - Accessible only by participants (PW-protected Website)
 - Accessible by Website visitors (public Website area)

Data collection and processing: Personal Data and Contact Information will be exclusively used within the framework of registration to the aforementioned event and will not be shared publicly. The collected data is stored on a secured server.

Right of access: applicants have a right to access and ask for changing or deleting their personal data and pictures.

Application to Register

To ensure the personal workshop character of the event and provide maximum knowledge transfer benefits for the attendees, the overall number of participants is limited. Workshop participation will be assigned in the sequence of receipt of registration applications. Full confirmation of registration will occur by receipt of the Workshop fees.

Discounted Rates

Discounted rates on the Workshop fee of 100 € will be granted for members of ACCP or DMDG. In addition, a limited number of participants may receive discounted fees based on individual applications of students, personnel from non-profit organizations and registered charities.

Cancellation

Note: Cancellation must be addressed in writing to (e-mail sufficient) to the Workshop Secretary: secretary@ddi-workshop-marbach.org

In the event of circumstances beyond control, the Workshop Organizers reserve the right to alter the programme, the speakers the date or the venue.



Marbach Map

