



## September 28, 2022

08:00 - 09:00 **Registration**

09:00 - 09:15 **Opening and welcome**

*Mehul Mehta, US Food and Drug Administration, Silver Spring MD USA*

*Barbara Schug, SocraTec R&D, Oberursel, Germany*

**9:15 – 13:00**

**Session I:**

### **Statistical considerations for BE assessment in specific situations**

Session co-chairs:

*Gerald Beuerle, Teva, Ulm, Germany*

*Nilufer Tampal, US Food and Drug Administration, Silver Spring MD USA*

### **2-stage, adaptive and replicate design: a regulatory update after the discussions at GBHI 2**

09:15 - 09:40 **Re-cap from last meeting and new evidence comparing EMA, HC, FDA approach for highly variable drugs and replicate design; consumer risk?**

*Wanjie Sun, US-FDA, USA*

09:40 - 09:55 **News from EMA on requirements for highly variable drugs and replicate design**

*Paulo Paixao, University Lisbon, Portugal*

09:55 - 10:25 **Discussion**

10:25 - 10:40 **Adaptive design and alpha adjustment: FDA position**

*Xiaojuan Jiang, US-FDA, USA (TBC)*

10:40 - 10:55 **Novel approaches in adaptive design and alpha adjustment, e.g. for parallel design studies, or integration of pilot into pivotal studies**

*Helmut Schütz, BEBAC, Austria*

10:55 - 11:25 **Discussion**

11:25 - 12:00 **Coffee and tea break**

### **Modeling & Simulation**

12:00 - 12:20 **Introduction and example(s) to illustrate the opportunities of modeling & simulation to support virtual BE**

*Paula Muniz, CTI, Model Informed Development, Spain*

12:20 - 12:35 **Leveraging Model Integrated Evidence for Generic Drug Approval**

*Liang Zhao, US-FDA, USA*

12:35 - 12:50 **EMA perspective on model based BE**

*Michiel van den Heuvel, PK assessor in MEB, member of EMA MSWP and MWP, The Netherlands*

12:50 - 13:05 **IVIVC or PBPK, potential for waiver of in vivo BE studies from an innovator's perspective**

*Sebastian Haertter, Boehringer Ingelheim, Germany*

13:05 - 13:30 **Discussion**

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13:30 - 14:30 **Lunch break**

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**14:30 – 18:30** **Fed vs fasting conditions in BE trials: current status and new insights**

**Session II:**

Session co-chairs:

*Henning Blume, SocraTec C&S, Oberursel, Germany*

*Jan Welink, MEB, Utrecht, The Netherlands*

**Introduction to Session II:**

- 14:30 - 14:50 **Current regulatory thinking and where do we stand after GBHI-1 and GBHI-4?**  
*Jan Welink, MEB, The Netherlands*
- 14:50 - 15:10 **Fasted vs. fed state: what are the most essential differences in GI physiology which may affect the in-vivo performance of immediate release solid oral dosage forms?**  
*Mirko Koziolok, AbbVie, Germany*
- 15:10 - 15:20 **Discussion**
- 15:20 - 15:40 **Comparability of different capsule types: In-vivo performance of capsule shells in fasted vs. fed stomach and consequences for BE assessment**  
*Werner Weitschies, University Greifswald, Germany*
- 15:40 - 15:55 **Discussion**
- 15:55 - 16:30 **Coffee and tea break**
- 16:30 - 16:50 **Biopharmaceutical and pharmacokinetic characteristics of the active drug ingredient: which properties may be critical for comparability in fasted vs. fed state?**  
*Christos Reppas, National and Kapodistrian University of Athens, Greece*
- 16:50 – 17:05 **Discussion**
- 17:05 - 17:25 **New food trends: possible impacts on gastrointestinal function**  
*Clive Wilson, Strathclyde, UK*
- 17:25 – 17:40 **Discussion**
- 17:40 - 18:20 **Overall Discussion**
- 18:20 – 18:45 **Pearls of Bioequivalence Award 2022**
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- 19:30 - 22:30 **Conference dinner**
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September 29, 2022

**8:00 – 11:45** **Equivalence assessment of topical products: product-dependent approaches**

**Session III:**

Session co-chairs:

*Mehul Mehta, US Food and Drug Administration, Silver Spring MD USA*

*Barbara Schug, SocraTec R&D, Oberursel, Germany*

- 08:00 - 08:20 **Introduction: why the site of action matters also for topicals**  
*Barbara Schug, SocraTec R&D GmbH, Germany*
- 08:20 - 08:35 **Which type of studies are needed for approval of generic topical products and in the case of major changes: Current position of FDA**  
*Wenlei Jiang, FDA, USA*
- 08:35 - 08:50 **Clinical endpoint studies, pharmacodynamic studies, cutaneous PK studies and waiver option: EMAs current thinking and discussion process**  
*Evangelos Kotzagiorgis, EMA, The Netherlands*
- 08:50 - 09:05 **Which type of studies are needed for approval of generic topical products and in the case of major changes: Current position of ANVISA**  
*TBD*
- 09:05 – 09:20 **Discussion**
- 09:20 - 09:50 **Scientific background of appropriate comparative physicochemical characterisation, IVRT and IVPT of topical formulations**  
*Majella Lane, University College London - School of Pharmacy, UK*
- 09:50-10:20 **Requirements for a waiver of in-vivo studies based on qualitative, quantitative and structural similarity as well as IVRT and IVPT: example acyclovir topical cream**  
*Wenlei Jiang, FDA, USA*
- 10:20 - 10:35 **Discussion**
- 10:35 - 10:50 **Coffee and tea break**
- 10:50 - 11:10 **Promising technologies: Raman Spectroscopy and Thermodynamic and Functional Characteristics of Compositionally Different Topical Formulations**  
*Mehul Mehta, FDA, Rockville*
- 11:10 - 11:30 **Promising technologies: microperfusion**  
*Frank Sinner, Joanneum Research, Austria*
- 11:30 - 11:45 **Discussion**
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- 11:45 - 13:00 **Lunch break**
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**13:00 – 17:30 Bioequivalence evaluation of narrow therapeutic index (NTI) Drugs**

Session co-chairs:

**Session IV:**

*Wenlei Jiang, US-FDA, Silver Spring, USA*

*Yu Chung Tsang, Apotex, Toronto, Canada*

- 13:00 - 13:15 **Justification of the Current Regulatory Approach by EMA**  
*Jan Welink*
- 13:15 - 13:30 **Justification of the Current Regulatory Approach by U.S. FDA**  
*Wenlei Jiang, US-FDA, Silver Spring, USA*
- 13:30 - 13:45 **Justification of the Current Regulatory Approach by PMDA**  
*Toru Yamaguchi, PMDA, Japan*
- 13:45 – 14:15 **Panel discussion**
- 14:15 - 14:30 **Coffee and tea break**
- 14:30 - 14:50 **Statistical implication of divergent bioequivalence evaluation for NTI drugs**  
*Dr. Shein-Chung Chow, Duke University, USA (TBC)*
- 14:50 - 15:00 **Discussion**
- 15:00 - 15:20 **Challenges in global development of generic NTI drugs**  
*Dr. Gerald Beuerle, Teva, Germany*
- 15:20 - 15:30 **Discussion**
- 15:30 - 15:50 **Alternative thinking regarding bioequivalence evaluation of NTI drugs**  
*Dr. Paulo Paixao, University Lisbon, Portugal*
- 15:50 - 16:00 **Discussion**
- 16:00 - 16:20 **Debate the merit of pharmacokinetic variability comparison**  
*Dr. Leslie Benet, University of California, USA (TBC)*
- 16:20 - 16:30 **Discussion**
- 16:30 - 17:00 **Panel discussion**

17:00 - 17:15 **Closing remarks, Future of the Global Bioequivalence Harmonization Initiative**