



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

10:40 - 10:55 **Novel approaches in adaptive designs and alpha adjustment, e.g., with futility criteria and for parallel design 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**

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



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 **U.S. FDA Recommendation on Bioequivalence Demonstration of Topical Drug Products**
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**
Taina Mendes Nunes, CETER/GGMED/ANVISA, Brazil
- 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 **Characterization based approaches for locally acting drug products applied to the skin**
Markham Luke/Priyanka Ghosh, FDA, USA
- 10:20 - 10:35 **Discussion**
- 10:35 - 10:50 **Coffee and tea break**
- 10:50 - 11:10 **Cutaneous PK based approaches for locally acting drug products applied to the skin**
Markham Luke/Priyanka Ghosh, FDA, USA
- 11:10 - 11:30 **Promising technologies: Continuous skin sampling methods for cutaneous PK-based bioequivalence assessment**
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 **A Proposed Approach for Determination of the BE Acceptance Range for NTI Drugs**
Shein-Chung Chow, Duke University, USA
- 14:50 - 15:00 **Discussion**
- 15:00 - 15:20 **Challenges in global development of generic NTI drugs**
Gerald Beuerle, Teva, Germany
- 15:20 - 15:30 **Discussion**
- 15:30 - 15:50 **Alternative thinking regarding bioequivalence evaluation of NTI drugs**
Paulo Paixao, University Lisbon, Portugal
- 15:50 - 16:00 **Discussion**
- 16:00 - 16:20 **Debate the merit of pharmacokinetic variability comparison**
Leslie Benet, University of California, USA
- 16:20 - 16:30 **Discussion**
- 16:30 - 17:00 **Panel discussion**

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