



**AAPS/EUFEPS GLOBAL BIOEQUIVALENCE HARMONIZATION INITIATIVE: 4TH INTERNATIONAL WORKSHOP**

DECEMBER 12-13, 2019 • BETHESDA, MD

Hosted by:



Co-sponsored by:



**Thursday, December 12, 2019**

7:30 am – 9:30 am	AAPS Registration
7:30 am – 8:30 am	Continental Breakfast
8:30 am – 9:15 am	<b>Welcome and Introduction</b> Atilla Hincal, Ph.D., FAAPS, IDE Pharmaceutical Consultancy Mehul Mehta, Ph.D., FAAPS, U.S Food and Drug Administration Robert Lionberger, Ph.D., U.S. Food and Drug Administration
9:15 am – 12:00 pm	<b>Session I: Outcome Summary and Tying Up Loose Ends of GBHI Conference 2018 in Amsterdam</b> Moderator: Mehul Mehta, Ph.D., FAAPS, U.S Food and Drug Administration Moderator: Henning Blume, Ph.D., SocraTec C&S
9:15 am – 9:30 am	<b>Necessity of Multiple Dose Studies in BE Testing</b> Jan Welink, Ph.D., MEB
9:30 am – 9:45 am	<b>Suggestions for Further Harmonization of Remaining Open Issues</b> Nuno Silva, Ph.D., University of Lisbon
9:45 am – 10:10 am	<b>Discussion</b>
10:10 am – 10:25 am	Refreshment Break
10:25 am – 10:40 am	<b>Bioequivalence of Transdermal Delivery Systems</b> Markham Luke, Ph.D., U.S. Food and Drug Administration
10:40 am – 10:55 am	<b>Suggestions for Further Harmonization of Remaining Open Issues</b>

Charles E. DiLiberti, Montclair Bioequivalence Services, LLC

10:55 am – 11:20 am

**Discussion**

11:20 am – 11:30 am

**Liposomal Parenteral Preparations**

Jan Welink, Ph.D., MEB

11:30 am – 11:40 am

**Scientific Approach to Suggestions for Harmonization**

Peter Langguth, Ph.D., University of Mainz

11:40 am – 12:00 pm

**Discussion**

12:00 pm – 1:00 pm

Lunch

1:00 pm – 5:15 pm

**Session II: Evaluation of Bioequivalence for Long Acting Injectables and Implants**

Moderator: Mehul Mehta, Ph.D., FAAPS, U.S. Food and Drug Administration

Moderator: Jan Welink, Ph.D., MEB

1:00 pm – 1:20 pm

**Scientific Principles, and Similarities and Differences between International Guidelines**

Gerald Beuerle, Ph.D., Teva

1:20 pm – 1:35 pm

**Justification of the Current Regulatory Approach by US FDA**

Wenlei Jiang, Ph.D., U.S. Food and Drug Administration

1:35 pm – 1:50 pm

**Justification of the Current Regulatory Approach by EMA**

Jan Welink, Ph.D., MEB

1:50 pm – 2:05 pm

**Justification of the Current Regulatory Approach by ANVISA: A case by case decision**

Eduardo Fernandes, ANVISA

2:05 pm – 2:30 pm

**Discussion**

**INVITED PRESENTATIONS:**

2:30 pm – 2:50 pm

**PK Metrics for Evaluation of Bioequivalence of Long Acting Injectables and Implants, Including Assessment of Multiple Peaks**

Bharat Damle, Ph.D., Pfizer

2:50 pm – 3:10 pm

**Discussion**

3:10 pm – 3:30 pm	Refreshment Break
3:30 pm – 3:50 pm	<b>Scientific Arguments in Favor and Against the Requirement to Perform Multiple Dose Studies for Long Acting Injectables and Implants</b> Jack Cook, Ph.D., Pfizer
3:50 pm – 4:10 pm	<b>Discussion</b>
4:10 pm – 4:30 pm	<b>In-Vitro Release Methodology of Long Acting Injectables and Implants for In-Vivo Relevance to Support Product Quality Assurance</b> Sandra Klein, Ph.D., University of Greifswald
4:30 pm – 5:15 pm	<b>Discussion</b>
5:30 pm – 6:30 pm	Networking Reception

### Friday, December 13, 2019

7:30 am – 9:30 am	AAPS Registration
7:30 am – 8:30 am	Continental Breakfast
8:30 am – 9:20 am	<b>Keynote Lectures</b> Moderator: Vinod Shah, Ph.D., FAAPS Moderator: Atilla Hincal, Ph.D., FAAPS, IDE Pharmaceutical Consultancy
8:30 am – 8:40 am	<b>Road Map to an International BE Reference Product?</b> James Polli, University of Maryland
8:40 am – 8:50 am	<b>Road Map to an International BE Reference Product?</b> Susana Almeida, Medicines for Europe
8:50 am – 8:55 am	<b>Discussion</b>
8:55 am – 9:20 am	<b>Global Harmonization of Bioequivalence Requirements: Vision, Perspective or Illusion?</b> Henning Blume, Ph.D., SocraTec C&S
9:20 am – 12:35 pm	<b>Session III: Necessity of Assessing Bioequivalence for Immediate Release Dosage Forms in the Fed and/or Fasted State</b> Moderator: Nilufer Tampal, Ph.D. U.S. Food and Drug Administration

9:20 am – 9:35 am **Where Do We Stand After the Discussions in Previous Conferences?  
Summary of outcome of GBHI-1 and GBHI-2**  
Jan Welink, Ph.D., MEB

9:35 am – 9:55 am **Current Regulatory Approach by US FDA with Supporting Evidence  
from Case Studies**  
Nilufer Tampal, Ph.D. U.S. Food and Drug Administration

9:55 am – 10:10 am **Justification of The Current Regulatory Approach by Japan**  
Ryosuke Kuribayashi, Ph.D., PMDA

10:10 am – 10:30 am **Discussion**

10:30 am – 10:45 am Refreshment Break

#### **INVITED PRESENTATIONS:**

10:45 am – 11:05 am **Possibility to Identify Formulation/Excipient Effects Responsible for  
Failed Fed Studies of IR Products**  
Peter Langguth, Ph.D., University of Mainz

11:05 am – 11:20 am **Discussion**

11:20 am – 11:40 am **Situation When a Fed Study is More Sensitive to Detect Formulation  
Differences Between IR Products - examples from case studies**  
Elizabeth Rody, Ph.D., Teva

11:40 am – 11:55 am **Discussion**

11:55 am – 12:15 pm **Food interaction studies for determination of formulation related food  
effect: is the high-fat meal always the best choice?**  
Barbara Schug, Ph.D., SocraTec R&D

12:15 pm – 12:35 pm **Discussion**

12:35 pm – 1:30 pm Lunch

1:30 pm – 5:45 pm **Session IV: Bioequivalence Assessment of Orally Inhaled Drug Products  
(OIDPs)**  
Moderator: Wenlei Jiang, Ph.D., U.S. Food and Drug Administration  
Moderator: Barbara Schug, Ph.D., SocraTec R&D

1:30 pm – 1:50 pm                    **Introduction about different ODP and overview about global regulatory approaches**  
Jennifer Wylie, Ph.D., Merck

1:50 pm – 2:05 pm                    **Justification of The Current Regulatory Approach by EMA**  
Janet König, Ph.D., BfArM

2:05 pm – 2:20 pm                    **Justification of The Current Regulatory Approach by US**  
Ke Ren, Ph.D., U.S. Food and Drug Administration

2:20 pm – 2:35 pm                    **Justification of The Current Regulatory Approach by ANVISA**  
Eduardo Fernandes, ANVISA

2:35 pm – 3:00 pm                    **Discussion**

**INVITED PRESENTATIONS:**

3:00 pm – 3:20 pm                    **Systemic pharmacokinetic studies: design considerations for ODPs**  
Barbara Schug, Ph.D., SocraTec R&D  
Andre Warnke, SocraTec R&D

3:20 pm – 3:40 pm                    **In Vitro Testing - Predictive of in vivo performance of ODPs?**  
Günther Hochhaus, Ph.D., University of Florida

3:40 pm – 3:55 pm                    Refreshment Break

3:55 pm – 4:15 pm                    **FEV1 Based Bioequivalence Study for Inhaled Corticosteroids**  
Liang Zhao, Ph.D., U.S. Food and Drug Administration

4:15 pm – 4:35 pm                    **Alternative Thinking on Comparative Clinical Endpoint Study for ODPs to Facilitate Harmonization**  
Yu Chung Tsang, Ph.D., Apotex

4:35 pm – 5:15 pm                    **Discussion**

5:15 pm – 5:30 pm                    **Conclusion and Future Perspective**  
Henning Blume, Ph.D., SocraTec C&S