



CDER SMALL BUSINESS AND INDUSTRY ASSISTANCE

**ADVANCING GENERIC DRUG DEVELOPMENT:
Translating Science to Approval**

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SEPT 21-22, 2021

Version 8 – Updated September 18, 2021

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AGENDA

All times are Eastern (EDT UTC-4)

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DAY ONE: Tuesday, September 21, 2021

8:30 – 8:45

Welcome

Brenda Stodart, PharmD, BCGP, RAC

CAPT, USPHS

Director, Small Business and Industry Assistance (SBIA)

Division of Drug Information (DDI) | Office of Communications (OCOMM)

Center for Drug Evaluation and Research CDER

8:45 – 9:00

Keynote

Janet Woodcock, MD

Acting Commissioner of Food and Drugs

Food and Drug Administration

Your SBIA Hosts for Day One

Renu Lal, PharmD

*LCDR, USPHS, Pharmacist
SBIA | DDI | OCOMM | CDER*

Forest "Ray" Ford, Jr., PharmD

*CAPT, USPHS, Pharmacist
SBIA | DDI | OCOMM | CDER*

DAY ONE: Tuesday, September 21, 2021

Session 1: COVID-19 Impact on Generic Drug Regulation and Evaluation

Session Leads: **Liang Zhao, PhD** (Division of Quantitative Methods & Modeling (DQMM) | Office of Research and Standards (ORS) | Office of Generics Drugs (OGD) | CDER) and **Bing Li, PhD** (Office of Bioequivalence (OB) | OGD | CDER)

9:00 – 9:20

Protecting Participants in Bioequivalence Studies for Abbreviated New Drug Applications During the COVID-19 Public Health Emergency

Mitchell Frost, MD

Acting Deputy Director

Division of Therapeutic Performance II (DTP II)

ORS | OGD | CDER

9:20 – 9:40

Alternative Bioequivalence Approaches for Data Analysis Due to COVID-19 Related Study Interruptions

Yuqing Gong, PhD

Pharmacologist

DQMM | ORS | OGD | CDER

9:40 – 10:00

Quality Consideration in the Development of FDA Guidance “Temporary Policy on Repackaging or Combining Propofol Drug Products During the COVID-19 Public Health Emergency”

Gloria Huang, PhD

Lead Chemist

Division of Liquid-Based Products II (DLBP II)

Office of Lifecycle Drug Products (OLDP)

Office of Pharmaceutical Quality (OPQ) | CDER

10:00 – 10:20

Applications and Lessons Learned for Conducting Adaptive Designs in Generic Drug Development

Kairui (Kevin) Feng, PhD

Staff Fellow

DQMM | ORS | OGD | CDER

10:20 – 10:50

Session 1: Q&A Panel

Mitchell Frost, Yuqing Gong, Gloria Huang, Kairui (Kevin) Feng, and

Kimberly Witzmann, MD

Acting Director

Division of Clinical Review (DCR)

Deputy Director

Office of Safety and Clinical Evaluation (OSCE) | OGD | CDER

Stella C. Grosser, PhD

Director

Division of Biometrics VIII

Office of Biostatistics (OB)

Office of Translational Sciences (OTS) | CDER

10:50 - 11:05: BREAK

DAY ONE: Tuesday, September 21, 2021

Session 2: Considerations in Assessing Generic Drug Products of Oral Dosage Forms

Session Leads: **Wei-Jhe Sun, PhD** (Division of Bioequivalence | ORS | OGD | CDER), **Fang Wu, PhD** (DQMM | ORS | OGD | CDER), and **Rong Wang, PhD** (Division of Biometrics I (DB I) | OB | OGD | CDER)

11:05 - 11:25

Nasal Pharmacokinetic Study of Abuse-Deterrent Oxycodone HCl ER Products Following Insufflation of Physically Manipulated Products

Saeid Raofi, MS
Pharmacologist
DTP II | ORS | OGD | CDER

11:25 – 11:45

Advancement in the In-Vitro Evaluation of Abuse-Deterrent Formulations for Opioid Analgesics: Research and Assessment Perspectives

Manar Al-Ghabeish, PhD
Staff Fellow
Division of Product Quality Research (DPQR)
OTR | OPQ | CDER

11:45 – 12:05

Physiological Based Pharmacokinetic Modeling and Simulation Absorption Modeling and Virtual Bioequivalence to Support Generic Drug Development and Regulatory Decision Making for Oral Products

Fang Wu, PhD
Acting Team Lead
DQMM | ORS | OGD | CDER

12:05 – 12:25

Safety Assessment of Flavors in Generic Drug Products

Melanie Mueller, PharmD, PhD
Team Lead
Division of Pharmacology/Toxicology Review (DPTR)
OSCE | OGD | CDER

12:25 – 12:55

Session 2: Q&A Panel

Saeid Raofi, Manar Al-Ghabeish, Fang Wu, Melanie Mueller, and

Xiaoming Xu, PhD
Supervisory Chemist
DPQR | OTR | OPQ | CDER

Heather Boyce, PhD
Acting Team Lead
DTP II | ORS | OGD | CDER

12:55 - 1:30 PM: LUNCH BREAK

DAY ONE: Tuesday, September 21, 2021

Session 3: Complex Generics: Complex Injectables, Ophthalmic and Otic Products, Part 1

Session Leads: **Pahala Simamora, PhD** (DLBP II | OLDP | OPQ | CDER) and **Darby Kozak, PhD** (DTP I | ORS | OGD | CDER)

1:30 - 1:50

Advances in Iron Colloid Products: Product-Specific Guidance (PSG) Discussion

Wenlei Jiang, PhD
Senior Science Advisor
Immediate Office (IO)
ORS | OGD | CDER

1:50 – 2:10

Advances in Iron Colloid Products: Quality Considerations When Conducting Comparability Studies

Yiwei Li, PhD
Branch Chief
Division of Pharmaceutical Manufacturing IV (DPMAIV)
Office of Pharmaceutical Manufacturing Assessment (OPMA)
OPQ | CDER

2:10 – 2:30

Injectable Suspensions: Tools and Methods Bridging the In Vivo and In Vitro Gap

Bin Qin, PhD
Staff Fellow
DTP I | ORS | OGD | CDER

2:30 – 3:00

Session 3, Part 1: Q&A Panel

**Wenlei Jiang, Yiwei Li, Bin Qin, and
Bruce Lerman, PhD**
Lead Pharmacologist
DB I | OB | OGD | CDER
Darby Kozak, PhD
Deputy Director
DTP I | ORS | OGD | CDER

3:00 – 3:15 PM: BREAK

DAY ONE: Tuesday, September 21, 2021

Session 3: Complex Generics: Complex Injectables, Ophthalmic and Otic Products, Part 2

Session Leads: **Pahala Simamora, PhD** (DLBP II | OLDP | OPQ | CDER) and **Darby Kozak, PhD** (DTP I | ORS | OGD | CDER)

3:15 – 3:35

Challenges in the Approval of Complex Otic and Ophthalmic Generic Products: Bioequivalence Perspectives

Chunsheng Zhao, PhD

Bioequivalence Reviewer

Division of Bioequivalence III (DB III)

OB | OGD | CDER

3:35 - 3:55

Challenges in the Approval of Complex Otic & Ophthalmic Generic Products: Quality Perspectives

Poonam Chopra, PhD

Review Chemist

DLBP II | OLDP | OPQ | CDER

3:55 – 4:15

Physiological Based Pharmacokinetic Modeling and Simulation to Support Generic Ophthalmic Drug Product Development and Regulatory Decision Making

Mingliang Tan, PhD

Staff Fellow

DQMM | ORS | OGD | CDER

4:15 – 4:45

Session 3, Part 2: Q&A Panel

**Chunsheng Zhao, Poonam Chopra,
Mingliang Tan, Yan Wang, and**

Asif Rasheed, PhD

Senior Chemist

DLBPI | OLDP | OPQ | CDER

Kai Kwok, PhD

Senior Pharmaceutical Quality Assessor

DLBP II | OLDP | OPQ | CDER

4:45 – 4:50

Day 1, Closing Remarks

Lei Zhang, PhD

Deputy Director

ORS | OGD | CDER

4:50 PM: DAY ONE ADJOURN

DAY TWO: Wednesday, September 22, 2021

8:30 – 8:40

Day Two Welcome

Renu Lal, PharmD
*LCDR, USPHS
Pharmacist*
SBIA | DDI | OCOMM | CDER

Your SBIA Hosts for Day Two

Renu Lal, PharmD
LCDR, USPHS, Pharmacist
SBIA | DDI | OCOMM | CDER

Forest "Ray" Ford, Jr., PharmD
CAPT, USPHS, Pharmacist
SBIA | DDI | OCOMM | CDER

Session 4: Cutting Edge Science in Complex Generics

Session Leads: **Lei Zhang, PhD** (ORS | OGD | CDER) and **Lucy Fang, PhD** (DQMM | ORS | OGD | CDER)

8:40 – 9:00

Utility of Artificial Intelligence to Facilitate the Development and Regulatory Assessment of Complex Generic Drugs

Meng Hu, PhD
Acting Team Lead
DQMM | ORS | OGD | CDER

9:00 – 9:20

Model-Integrated Evidence for Bioequivalence Assessment of Complex Generic Drugs

Miyoung Yoon, PhD
Acting Team Lead
DQMM | ORS | OGD | CDER

9:20 – 9:40

Scanning Electron Cryomicroscopy (Cryosem) for Characterization of Complex Drug Products

Huzeyfe Yilmaz, PhD
Staff Fellow
Division of Complex Drug Analysis (DCDA)
OTR | OPQ | CDER

9:40 – 10:00

Advanced Imaging and Data Analysis to Support Compositional Structure Similarity of Polymeric Formulations

Yan Wang, PhD
Acting Team Lead
DTP | ORS | OGD | CDER

DAY TWO: Wednesday, September 22, 2021

10:00 – 10:30

Session 4: Q&A Panel

**Meng Hu, Miyoung Yoon, Huzeyfe Yilmaz,
Yan Wang, and**

Robert Lionberger, PhD
Director
ORS | OGD | CDER

Daniel Willett, PhD
Chemist
DCDA | OTR | OPQ | CDER

10:30 – 10:45 AM: BREAK

Session 5: Complex Generics: Nasal and Inhalation Products

Session Leads: **Changning Guo, PhD** (DCDA | OTR | OPQ | CDER), **Michael Spagnola, MD** (Division of Clinical Safety and Surveillance (DCSS) | OSCE | OGD | CDER), and **Sneha Dhapare, PhD** (DTP I | ORS | OGD | CDER)

10:45 – 11:05

Product-Specific Considerations for Alternative Bioequivalence (BE) Approaches to Comparative Clinical Endpoint BE Studies

Susan Boc, PhD
Scientific Researcher
DTP I | ORS | OGD | CDER

11:05 – 11:25

Approaches for studies interrupted due to COVID-19 for Nasal and Inhalation Products

Vipra Kundoor, PhD
Pharmacologist
DB I | OB | OGD | CDER

11:25 – 11:45

Demonstrating Bioequivalence with Inhalation Spray Drug Products

Sneha Dhapare, PhD
Visiting Associate
DTP I | ORS | OGD | CDER

11:45 – 12:05

Comparative Analyses for Generic Oral Inhalers

Michael Spagnola, MD
Lead Physician
DCSS | OSCE | OGD | CDER

DAY TWO: Wednesday, September 22, 2021

12:05 – 12:35

Session 5: Q&A Panel

**Susan Boc, Vipra Kundoor, Sneha Dhapare,
Michael Spagnola, and**

Bryan Newman, PhD
Acting Team Lead
DTP I | ORS | OGD | CDER

Changning Guo, PhD
Supervisory Chemist
DCDA | OTR | OPQ | CDER

Bing Cai, PhD
Director
DLBP I | OLPD | OPQ | CDER

12:35 - 1:10: LUNCH BREAK

Session 6: Complex Generics: Topical Products, Part 1

Session Leads: **Ying Fan, PhD** (DCR | OSCE | OGD | CDER), and **Tannaz Ramezanli, PhD, PharmD** (DTP I | ORS | OGD | CDER)

1:10 – 1:30

“No Difference” Standard vs. Q1|Q2 Sameness for Topical Drug Products

Megan Kelchen, PhD
Pharmacologist
DTP I | ORS | OGD | CDER

1:30 – 1:50

Use of Q3 Characterization Tests for Topical Semisolid Drug Products

Sam Raney, PhD
Associate Director for Science
IO | ORS | OGD | CDER

1:50 – 2:10

Recent Research Related to Q3 Characterization of Topical Products Containing Porous Microparticles

Ahmed Zidan, PhD
Senior Pharmacologist
DPQR | OTR | OPQ | CDER

2:10 – 2:40

Challenges and Considerations with Model-based Virtual Bioequivalence Assessments for Generic Dermatological Products

Eleftheria Tsakalozou, PhD
Staff Fellow
DQMM | ORS | OGD | CDER

Khondoker Alam, PhD
Staff Fellow
DQMM | ORS | OGD | CDER

DAY TWO: Wednesday, September 22, 2021

2:40 – 3:10

Session 6, Part 1: Q&A Panel

**Megan Kelchen, Sam Raney, Ahmed Zidan,
Khondoker Alam, Eleftheria Tsakalozou, and**

Markham Luke, MD, PhD

Director

DTP I | ORS | OGD | CDER

3:10 – 3:20 PM: BREAK

Session 6: Complex Generics: Topical Products, Part 2

Session Leads: **Ying Fan, PhD** (DCR | OSCE | OGD | CDER), and **Tannaz Ramezanli, PhD, PharmD** (DTP I | ORS | OGD | CDER)

3:20 – 3:40

Common Issues Identified in In-vitro Release Test (IVRT) and In-vitro Permeation Test (IVPT) Studies Submitted in ANDA to Support Bioequivalence for Topical Products

Josephine Aimuwu, PhD

Pharmacologist

DB II | OB | OGD | CDER

3:40 – 4:00

Theoretical Principles and Best Practices: In Vitro Release Test

Tannaz Ramezanli, PhD, PharmD

Pharmacologist

DTP I | ORS | OGD | CDER

4:00 – 4:20

Theoretical Principles and Best Practices: In Vitro Permeation Test

Priyanka Ghosh, PhD

Acting Team Lead

DTP I | ORS | OGD | CDER

4:20 – 4:50

Session 6, Part 2: Q&A Panel

**Josephine Aimuwu, Tannaz Ramezanli,
Priyanka Ghosh, Markham Luke, and**

Sam Raney

4:50 – 5:00

Closing Remarks

Robert Lionberger, PhD

Director

ORS | OGD | CDER

5:00: ADJOURN WORKSHOP