

CHICAGOLAND PHARMACEUTICAL DISCUSSION GROUP

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PROGRAM: X-RAY PHOTOELECTRON SPECTROSCOPY AS A TOOL TO EVALUATE AMORPHOUS SOLID DISPERSIONS

DATE: THURSDAY, APRIL 3, 2025

SPEAKER: DR. TZE NING HIEW, ASSISTANT PROFESSOR, UNIVERSITY OF IOWA

An amorphous solid dispersion comprises a molecular mixture of an amorphous drug and a polymer. Because the amorphous drug is in a higher energy, metastable state, concentrations beyond the crystalline solubility of the drug can be attained in the gastrointestinal tract upon dissolution. Therefore, this formulation approach is a popular strategy to improve the oral bioavailability of poorly water-soluble drugs. However, the formulation of an amorphous solid dispersion is an art that requires a delicate balance between physical stability and dissolution performance; failure to achieve this balance will negate the benefits of the formulation strategy. In this talk, we will explore the use of X-ray photoelectron spectroscopy to understand how formulation and processing strategies affect the drug release behavior of amorphous solid dispersions. Two case studies will be discussed to demonstrate how this high-resolution spectroscopic technique offers valuable insights into understanding the dissolution performance of amorphous solid dispersions.

Dr. Tze Ning Hiew is currently an assistant professor at the University of Iowa College of Pharmacy. She received her Bachelor of Science (Pharmacy) and Ph.D. degrees from the National University of Singapore. Following her doctoral studies, she completed her postdoctoral training at Purdue University College of Pharmacy. Research in her group at the University of Iowa College of Pharmacy focuses on using innovative formulation and processing strategies to address the challenges of modern-day oral drug delivery. Her research has thus far received funding support from the U.S. National Science Foundation, PhRMA Foundation, Roy J. Carver Charitable Trust, as well as the pharmaceutical industry. Dr. Hiew has been honored with several awards, including the IPEC Foundation Patrick DeLuca Emerging Researcher Award (2020), the PhRMA Foundation Faculty Starter Grant in Drug Delivery (2024), the National Science Foundation EPSCoR Research Fellowship (2024) and the Ebert Prize for best manuscript in the Journal of Pharmaceutical Sciences (2025). She also serves on the editorial boards of AAPS PharmSciTech and the International Journal of Pharmaceutics.

TIME: 5:30 PM – SOCIAL HOUR

6:00 PM – DINNER

7:00 PM – MEETING

PLACE: DOVER STRAITS

890 US-45, MUNDELEIN, IL 60060

COST: \$55.00

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3. PASTA PRIMAVERA – SERVED VETAGABLES (VEGETARIAN)

WHEN REGISTERING, PLEASE INDICATE YOUR SELECTED DINNER MEAL:

Meal Choice: Fish, Chicken, Vegetarian	First Name	Sur (Last) Name	Company

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CPDG ACCEPTS CASH, CHECKS (PERSONAL OR COMPANY) OR THROUGH ZELLE

FIRST FIVE STUDENTS ARE FREE

PLEASE MAKE RESERVATIONS EARLY NO-SHOWS WILL BE BILLED ACCORDINGLY

MORE INFORMATION CAN BE FOUND ON THE CPDG WEBPAGE:

<https://aaps-cpdg.org/>

Firm Registration Deadline of 12:00 p.m., Tuesday, April 1, 2025

**DIRECTIONS TO THE APRIL 3, CPDG MEETING AT DOVER STRAITS
890 US-45, MUNDELEIN, IL**

- EXIT I-94 AT TOWN LINE RD. (60)
- HEAD WEST ON TOWN LINE ROAD (60) AND TURN LEFT ONTO US-45 SOUTH
- TURN LEFT TO STAY ON US-45 S
- RESTURANT WILL BE ON THE LEFT-HAND SIDE OF THE ROAD

