

CHICAGOLAND PHARMACEUTICAL DISCUSSION GROUP

Affiliated with the American Association of Pharmaceutical Scientists

Winter, 2024

Volume XXXII, Number 3

PROGRAM: BIOPHYSICAL CHARACTERIZATION OF REVERSIBLE SELF-ASSOCIATION IN HIGH CONCENTRATION BIOPRODUCT FORMULATIONS

DATE: THURSDAY, JANUARY 30, 2025

SPEAKER: DR. EHAB MOUSSA, ASSOCIATE DIRECTOR, ABBVIE, INC.

Reversible self-association (RSA) of therapeutic proteins presents major challenges in the development of high-concentration formulations, especially those intended for subcutaneous administration. Understanding self-association mechanisms is therefore critical to the design and selection of candidates with acceptable developability to advance to clinical trials. The combination of experiments and in silico modeling presents a powerful tool to elucidate the interface of self-association. RSA of monoclonal antibodies has been studied extensively under different solution conditions and have been shown to involve interactions for both the antigen-binding fragment and the crystallizable fragment. Novel modalities such as bispecific antibodies, antigen-binding fragments, single-chain-variable fragments, and diabodies constitute a fast-growing class of antibody-based therapeutics that have unique physiochemical properties compared to monoclonal antibodies. In this talk, a case study on the RSA of a novel fusion protein modality will be discussed. In this work, RSA was studied using biophysical characterization methods as well as hydrogen–deuterium exchange coupled with mass spectrometry (HDX-MS) and in silico modeling. Taken together, the results demonstrate that the combination of HDX-MS within silico modeling is a powerful tool to guide the design and candidate selection of novel biotherapeutic modalities.

Dr. Moussa is Associate Director in Development Sciences at AbbVie. He currently leads the biologics formulation and process development group in AbbVie's Lake County site. He also leads the company's center of excellence for lyophilization and alternative drying technologies. Dr. Moussa is a pharmacist by training, holds a master's degree in biochemistry, and completed his Ph.D. in Pharmaceutics at Purdue University.

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

CLICK ON THE FOLLOWING LINK TO REGISTER: [Register Here](#)

ZELLE PAYMENT AT cpdg2022@gmail.com

OR USE THE FOLLOWING QR CODE (NEXT PAGE):

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THE DINNER MEAL CHOICES ARE THE FOLLOWING:

1. ATLANTIC SALMON FILET
2. BREAST OF CHICKEN MARSLA
3. PASTA PRIMAVERA – SERVED VETAGABLES (VEGETARIAN)

WHEN REGISTERING, PLEASE INDICATE YOUR SELECTED DINNER MEAL:

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

**E-MAIL WILL BE SENT
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, January 28, 2025

**DIRECTIONS TO THE JANUARY 30, 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

