

CHICAGOLAND PHARMACEUTICAL DISCUSSION GROUP

Affiliated with the American Association of Pharmaceutical Scientists

Spring, 2026

Volume XXXIII, Number 4

PROGRAM: SELF-ASSOCIATION SIGNATURES AS PREDICTORS OF FUNCTION, STABILITY, AND DEVELOPABILITY IN NEXT-GENERATION ANTIBODY-BASED THERAPEUTICS

DATE: THURSDAY, APRIL 16, 2026

SPEAKER: DR. REZA NEJADNIK

Therapeutic monoclonal antibodies (mAbs) and advanced mAb-based modalities, such as glycoengineered mAbs, antibody-drug conjugates (ADCs), and radioimmunoconjugates (RICs), are critically important for treating cancer, autoimmune, inflammatory, and many other diseases, often achieving significantly better outcomes than traditional small-molecule drugs. Yet the design and development of these molecules are complex and prone to failure due to suboptimal biological, stability, manufacturability, or delivery properties. Self-association is a major contributor to these liabilities and is strongly influenced by the introduction of charged and hydrophobic motifs during a) affinity maturation, b) engineering of glycans, and c) the addition of hydrophobic payloads or chelators during ADC and RIC preparation, factors whose combined effects on solution behavior, aggregation and function remain poorly understood. We have started looking into the effect of these groups on self-association by employing the existing metrics such as the diffusion interaction parameter (kD-DLS) and our recent complementary quartz crystal microbalance with dissipation (QCM-D) metric. The initial results are interesting and show that glycan charge, ADC drug-to-antibody ratio and payload chemistry, and RIC chelator attachment substantially modulate self-association, nonspecific adsorption, and stress-induced aggregation. By clarifying how charged/hydrophobic patches, glycans, and conjugated moieties influence weak interactions and stability, this work will enable the design (or rescue) of promising mAbs and engineered modalities with strong biological activity and optimal development profiles.

Dr. Reza Nejadnik received his PhD in Biomedical Engineering from the University of Groningen in the Netherlands back in 2009. Following a few years of research in the area of proteins, nano and biomaterials at The University of Texas, Northwestern University and Radboud University Nijmegen, Reza joined Leiden Academic Center for Drug Research to co-lead a European public-private partnership project (COMPACT) that addressed the current challenges with formulation and delivery of macromolecules. In the 4-year period of the COMPACT project, Reza's research focused on characterization and understanding of protein aggregation in complex formulations as well as protein-material interactions. Reza then joined the Global Biologic Drug Product Development team of Sanofi and headed a formulation and process development laboratory in the Company's R&D hub in Frankfurt, Germany. He developed early formulations and drug product manufacturing processes for antibodies and nanobodies.

Reza is currently a faculty member of the Department of Pharmaceutical Sciences and Experimental Therapeutics at the University of Iowa. His research is focused on self-association of mAbs, ADCs and other modalities, formulation, characterization and handling of proteins, interaction of biologics with interfaces and immunogenicity assessments. Reza is a member of the scientific advisory board of Coriolis Pharma and is involved in advising client projects in developability, drug product development and in-use areas. The company recently opened their labs in North Carolina.

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 In-Person
\$25.00 Virtual Option
\$0.00 Student

**CLICK ON THE FOLLOWING LINK TO REGISTER: [Register Here](#)
ZELLE PAYMENT AT cpdg2022@gmail.com
OR USE THE FOLLOWING QR CODE (NEXT PAGE):**

**CPDG WOULD LIKE TO ANNOUNCE A NEW VIRTUAL PARTICIPATION
OPTION FOR THE CPDG SEMINAR AT A REDUCED FEE, STARTING THIS
YEAR. THE WEBINAR LINK WILL BE SHARED PRIOR TO MEETING.**

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THE DINNER MEAL CHOICES ARE THE FOLLOWING:

1. LAKE SUPERIOR WHITEFISH FILET – BROILED AND TOPPED WITH AMANDINE SAUCE
2. BREAST OF CHICKEN LIMON – SAUTÉED WITH LEMON JUICE. WHITE WINE AND HERBS OVER STEAMED FRESH SPINACH
3. JUMBO SHRIMP & PASTA – SAUTEED WITH OLIVE OIL, GREEN ONIONS. TOMATOES. GARLIC AND HERBS OVER FETTUCCHINE PASTA
4. PASTA PRIMAVERA – SERVED VETAGABLES (VEGETARIAN)

WHEN REGISTERING, PLEASE INDICATE YOUR SELECTED DINNER MEAL:

Meal Choice: Fish, Chicken, Shrimp. 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, April 14, 2026

**DIRECTIONS TO THE APRIL 16, 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

