

# ASHBi SEMINAR

2024

10.15

14:00-15:30

Registration



Venue

Conference Room ◀◀◀ Onsite Only

B1F, Faculty of Medicine Bldg. B

Lecturer

So Miyoshi Ph.D.

Head of Clinical Pharmacology & Bioanalytics,  
Pfizer R&D Japan

Yamato Sano

Clinical Pharmacology Lead, Pfizer R&D Japan

## “Current and Future Perspective of Model-Informed Drug Discovery and Development”

数理モデルによる医薬品研究開発のパラダイムシフト

Lecturer: **So Miyoshi** Ph.D.



Mathematical modeling and simulations have become crucial in aiding the discovery, development, and regulatory decision-making of new medicines. As such, Model-Informed Drug Discovery and Development (MIDD) has significantly enhanced the success rate of clinical studies while reducing the time and cost of bringing new drugs to patients. Within MIDD, increasing attention has recently focused on quantitative systems pharmacology, which integrates a mechanistic understanding of disease pathophysiology to generate predictions that inform various stages of the drug development process. I will present the vision of MIDD, which has seen remarkable advancements in emerging technologies, along with the collaboration among quantitative scientists.

## “Advancing Quantitative Systems Pharmacology Model for Inflammatory Bowel Disease for Clinical Efficacy Predictions in Ulcerative Colitis”

Lecturer: **Yamato Sano**



Quantitative systems pharmacology (QSP) modeling is applied to address essential questions in drug development, such as the mechanism of action of a therapeutic agent and the progression of disease. The aim of our work is to advance a QSP model of Inflammatory Bowel Disease (IBD) such that it can predict efficacy at the level of relevant biomarkers with extension to clinical endpoints of remission for known mechanisms. Finally, we established a quantitative relationship between fecal calprotectin (FCP) and endoscopic healing, with lower FCP scores more likely to correspond to endoscopic score 0-1 compared to those for higher scores.

Hosted by Institute for the Advanced Study of Human Biology (WPI-ASHBi)

Contact: Prof. Sungrim Seirin-Lee [ASHBi, Kyoto University] | [lee.seirin.2c@kyoto-u.ac.jp](mailto:lee.seirin.2c@kyoto-u.ac.jp)

