



THE 16th SUGIYAMA LABORATORY RIKEN OPEN SYMPOSIUM

“Challenges and Opportunities of New Concepts and Tools for predicting drug clearance, interindividual differences and drug interactions”

--- On the occasion of Yuichi Sugiyama's Retirement from RIKEN---

Date: Day1: 13:00-17:15, November 16th (Mon) , 2020
Day2: 9:30-17:10, November 17th (Tue) , 2020
Venue: RIKEN Yokohama Main Office Building Hall
Language: English

Co-chairs;

Takashi Yoshikado (Yokohama University of Pharmacy, Japan / RIKEN)

Kazuya Maeda (The University of Tokyo, Japan / RIKEN)

Day1: November 16th , 2020

13:00-13:10 Opening remarks (10)

Yuichi Sugiyama (Sugiyama Laboratory, RIKEN, Japan)

Chair: Shinji Yamashita (Setsunan University, Japan)

13:10-13:45 **[Keynote Lecture 1] Web**

IVIVE: Evaluating the Boundary Conditions. (35)

Leslie Z. Benet (University of California, San Francisco, U.S.A.)

Chair: Ken-ichi Inui (Kyoto University, Japan)

13:45-14:20 **[Keynote Lecture 2] Web**

Deorphaning Transporters in the SLC22 Family: Implications for interindividual variation in drug response. (35)

Kathleen M. Giacomini (University of California, San Francisco, U.S.A.)

Chair: Ikumi Tamai (Kanazawa University, Japan)

14:20-14:45 Advances in the endogenous biomarkers for transporter-mediated drug drug interaction risk assessment. (25)

Hiroyuki Kusuhara (The University of Tokyo, Japan / RIKEN)

Chair: Kouichi Yoshinari (University of Shizuoka, Japan)

14:45-15:10 **Web**

Shedding light on in vivo target occupancy via PBPK Modeling with saturable target binding: the cases of small-molecule drugs with high-affinity targets. (25)

Woojin Lee (Seoul National University, Korea / RIKEN)

15:10-15:35 Coffee break (25)



Chair: Yoshiyuki Shirasaka (Kanazawa University, Japan)

15:35-16:00 Characterization of the intestinal transport of drugs with human-derived tissue samples. (25)

Kazuya Maeda (The University of Tokyo, Japan / RIKEN)

Chair: Mitsuru Hashida (Kyoto University, Japan)

16:00-16:35 **【Keynote Lecture 3】 Web**

Reflections on clearance. (35)

Malcolm Rowland (University of Manchester, UK)

Chair: Hiroshi Suzuki (The University of Tokyo Hospital, Japan)

16:35-17:10 **【Keynote Lecture 4】 Web**

Liquid Biopsy Enables Quantification of Hepatic Capacity for Drug Metabolism and Disposition beyond the Impact of Genetics. (35)

Amin Rostami (University of Manchester, UK)

17:10-17:15 Closing remark and a note for banquet

Kazuya Maeda (The University of Tokyo, Japan / RIKEN)

Day2: November 17th, 2020

Chair: Kiyomi Ito (Musashino University, Japan / RIKEN)

9:30-9:55 A new parameter optimization algorithm for the PBPK model analyses using Cluster Gauss-Newton method: (25)

Yuichi Sugiyama (Sugiyama Laboratory, RIKEN, Japan)

Chair: Yoshiro Saito (National Institute of Health Sciences, Japan)

9:55-10:30 **【Keynote Lecture 5】 Web**

Regulatory perspective on clinical pharmacology strategy for drug development. (35)

Shiew Mei Huang (U.S. Food and Drug Administration, U.S.A.)

Chair: Yasushi Yamazoe (Tohoku University, Japan)

10:30-11:05 **【Keynote Lecture 6】 Web**

Meeting the challenges in quantitating individual clearance pathways by reaction phenotyping. (35)

Scott Obach (Pfizer, U.S.A.)

Chair: Hiroshi Yamazaki (Showa Pharmaceutical University, Japan)

11:05-11:30 **Web**

Evaluation of a clinical microdose cocktail to study transporter and CYP3A-mediated DDIs: from healthy subjects to renal impaired patients. (25)

Xiaoyan Chu (Merck Sharp & Dohme Corp., U.S.A.)



Chair: Akihiro Hisaka (Chiba University, Japan / RIKEN)

11:30-11:55 **Web**

Use of transporter endogenous biomarker to elucidate the mechanisms of complex DDIs and to support concomitant medication recommendations. (25)

Kenta Yoshida (Genentech, U.S.A.)

11:55-12:50 Lunch (55)

Chair: Tappei Takada (The University of Tokyo Hospital, Japan)

12:50-13:15 **Web**

Joint East Asian Phase 1 studies - we are not so different! (25)

Jasminder Sahi (Sanofi K.K., China)

Chair: Takashi Kuwabara (Yokohama University of Pharmacy, Japan)

13:15-13:40 Comprehensive PBPK Model of Rifampicin for Predicting Complex Drug-drug Interactions: Induction and Inhibition Effects for Metabolic Enzymes and Transporters. (25)

Ryuta Asaumi (Ono Pharmaceutical Co., Ltd., Japan)

Chair: Katsuhisa Inoue (Tokyo University of Pharmacy and Life Sciences, Japan / RIKEN)

13:40-14:05 Demonstration of the mechanism underlying the time-dependent inhibition of Cyclosporin A on OATP1B1, and development of the PBPK model of CsA incorporating the time-dependent inhibition. (25)

Saki Izumi (Eisai Co., Ltd., Japan)

Chair: Kosei Ito (Chiba University, Japan / RIKEN)

14:05-14:30 Multiple parameter optimization of PBPK and QSP models using Cluster Gauss-Newton method. (25)

Kota Toshimoto (Astellas Pharma Inc., Japan / RIKEN)

14:30-14:50 Coffee break (20)

Chair: Yoshiharu Deguchi (Teikyo University, Japan)

14:50-15:15 Prediction of unbound brain and CSF drug concentrations in animals and human -Theoretical and empirical approaches for species differences in P-gp and BCRP- (25)

Hideki Hirabayashi (Takeda Pharmaceutical Company Limited, Japan)

Chair: Yoshihisa Shitara (Sanofi K.K., Japan)

15:15-15:40 Prediction of renal clearance and plasma pharmacokinetics of opioids using a microphysiological system. (25)

Tomoki Imaoka (DAIICHI SANKYO COMPANY, LIMITED, Japan)

Chair: Koji Chiba (Yokohama University of Pharmacy, Japan / RIKEN)

15:40-16:05 To what extent can the albumin-mediated transport mechanism bridge the gap of hepatic uptake parameters between in vitro and in vivo? (25)

Seiji Miyauchi (Toho University, Japan / RIKEN)



Chair: Masatoshi Tomi (Keio University, Japan)

16:05-16:30 Quantitative proteomics for transporters. (25)

Sumio Ohtsuki (Kumamoto University, Japan / RIKEN)

Chair: Masanobu Sato (MSD K.K., Japan)

16:30-16:55 Transporter-mediated drug disposition in non-injured organs in diseased condition.
(25)

Yukio Kato (Kanazawa University, Japan / RIKEN)

16:55-17:10 Closing remarks (10)

Takashi Yoshikado (Yokohama University of Pharmacy, Japan / RIKEN)