

Report on Joint Symposium of the Faculty of Pharmaceutical Sciences & WPI-ICReDD in Hokkaido University

■ Conference Name

Joint Symposium of the Faculty of Pharmaceutical Sciences & WPI-ICReDD in Hokkaido University

■ Sponsors

Institute for Chemical Reaction Design and Discovery (WPI-ICReDD)
Faculty of Pharmaceutical Sciences

■ Date & Time

Date: Sep 15th (Thu), 2022
Time: 13:00~18:00

■ Place

Web conference (Zoom)

■ Participants

Registered participants: 134
On line participants: 120

■ Contents

Six researchers from ICReDD and six professors from the Faculty of Pharmaceutical Sciences were invited as speakers to give lectures in English, intending to new research development based on interdisciplinary exchange between ICReDD and the Faculty of Pharmaceutical Sciences. They delivered meaningful presentations with active question and answer sessions. The speakers were as follows.

- 1) Hiroki Hayashi (Experimental Sciences, WPI-ICReDD/JST-ERATO)
- 2) Masahiro Kojima (Synthetic and Industrial Chemistry, Fac. of Pharm. Sci.)
- 3) Kosuke Higashida (Experimental Sciences, WPI-ICReDD)
- 4) Kimiko Kuroki (Biomolecular Science, Fac. of Pharm. Sci.)
- 5) Sheng Hu (Information Sciences, WPI-ICReDD)
- 6) Mikako Ogawa (Molecular Imaging, Fac. of Pharm. Sci.)
- 7) Shinya Tanaka (Experimental Sciences, WPI-ICReDD)
- 8) Yuma Yamada (Molecular Design of Pharmaceuticals, Fac. of Pharm. Sci.)
- 9) Min Gao (Computational Sciences, WPI-ICReDD)
- 10) Koichi Fujiwara (Organic Chemistry for Drug Development, Fac. of Pharm. Sci.)
- 11) Nobuya Tsuji (Experimental Sciences, WPI-ICReDD)
- 12) Akira Katsuyama (Medicinal Chemistry, Fac. of Pharm. Sci.)

Program

- 13:00 – 13:10 Opening remarks
Prof. Satoshi Maeda, Director, WPI-ICReDD
Prof. Satoshi Ichikawa, Vice Dean, Faculty of Pharmaceutical Sciences
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- 13:10 Session 1 (Chair: Tsuyoshi Mita) 15 min talk and 5 min discussion
13:10 – 13:30 **Hiroki Hayashi** (Experimental Sciences, WPI-ICReDD/JST-ERATO)
Reaction simulation by quantum chemical calculations for multicomponent reactions with difluorocarbene
- 13:30 – 13:50 **Masahiro Kojima** (Synthetic and Industrial Chemistry, Fac. of Pharm. Sci.)
Silane- and peroxide-free hydrogen atom transfer hydrogenation using ascorbic acid and cobalt-photoredox dual catalysis
- 13:50 – 14:10 **Kosuke Higashida** (Experimental Sciences, WPI-ICReDD)
Design of cooperative catalysts for nucleophilic addition of *O*-nucleophiles toward alkynes
- 14:10 – 14:30 **Kimiko Kuroki** (Biomolecular Science, Fac. of Pharm. Sci.)
Structures and receptor recognition mechanism of immune inhibitory HLA-G molecules
- 14:30 – 14:50 **Sheng Hu** (Information Sciences, WPI-ICReDD)
Data representations for deep learning and chemistry-related applications
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- short break: 10 min-----
- 15:00 Session 2 “Cancer session” (Chair: Tetsuya Taketsugu) 25 min talk and 5 min discussion
15:00 – 15:30 **Mikako Ogawa** (Molecular Imaging, Fac. of Pharm. Sci.)
Cancer targeted phototherapy, based on photo-chemical reaction
- 15:30 – 16:00 **Shinya Tanaka** (Experimental Sciences, WPI-ICReDD)
Analysis of regulatory mechanism of plasticity towards cancer stemness by hydrogels
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- short break: 10 min-----
- 16:10 Session 3 (Chair: Tatsuhiko Yoshino) 15 min talk and 5 min discussion
16:10 – 16:30 **Yuma Yamada** (Molecular Design of Pharmaceuticals, Fac. of Pharm. Sci.)
Validation of therapeutic strategies using mitochondrial drug delivery systems
- 16:30 – 16:50 **Min Gao** (Computational Sciences, WPI-ICReDD)
Importance of systematic searching for computational catalysis

16:50 – 17:10 **Koichi Fujiwara** (Organic Chemistry for Drug Development, Fac. of Pharm. Sci.)
Design and synthesis of benzene congeners of resolvin E2 as its stable equivalents

17:10 – 17:30 **Nobuya Tsuji** (Experimental Sciences, WPI-ICReDD)
Predicting highly enantioselective catalysts using tunable fragment descriptors

17:30 – 17:50 **Akira Katsuyama** (Medicinal Chemistry, Fac. of Pharm. Sci.)
Stereoisomerism of chalcogen isologues of a sterically hindered benzamide

17:50 Closing remarks
Dr. Tsuyoshi Mita, Specially Appointed Associate Prof., WPI-ICReDD