

薬学部×ICReDD 合同シンポジウム報告書

■ シンポジウムの名称

薬学部×ICReDD 合同シンポジウム

■ 主催・共催

主催：北海道大学化学反応創成研究拠点（WPI-ICReDD）

共催：北海道大学薬学部

■ 開催期日

令和4年9月15日（木）13:00～18:00

■ 開催場所

ZOOMによるオンライン開催

■ 参加人数

事前登録者：134人

ZOOM参加者：120人

■ 事業の内容・成果

ICReDDと薬学部の部局間交流に基づく学際的研究の新展開を志向し、ICReDDの6名の研究者及び、薬学部の6名の先生を講演者として招き英語による講演を行った。質疑応答も活発に行われ、融合研究を始めるための基盤を構築した。講演者は以下の通りである。

- 1) 林 裕樹 (Experimental Sciences, WPI-ICReDD/JST-ERATO)
- 2) 小島 正寛 (Synthetic and Industrial Chemistry, Fac. of Pharm. Sci.)
- 3) 東田 皓介 (Experimental Sciences, WPI-ICReDD)
- 4) 黒木 喜美子 (Biomolecular Science, Fac. of Pharm. Sci.)
- 5) Sheng Hu (Information Sciences, WPI-ICReDD)
- 6) 小川 美香子 (Molecular Imaging, Fac. of Pharm. Sci.)
- 7) 田中 伸哉 (Experimental Sciences, WPI-ICReDD)
- 8) 山田 勇磨 (Molecular Design of Pharmaceuticals, Fac. of Pharm. Sci.)
- 9) Min Gao (Computational Sciences, WPI-ICReDD)
- 10) 藤原 広一 (Organic Chemistry for Drug Development, Fac. of Pharm. Sci.)
- 11) 辻 信弥 (Experimental Sciences, WPI-ICReDD)
- 12) 勝山 彬 (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

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

-----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

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