

6th Japan–UK Symposium on Asymmetric Catalysis

November 28–29, 2018

Centennial Hall Kyushu University School of Medicine,
Kyushu University

Supported by



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Astex Pharmaceuticals



Strem Chemicals



Royal Society of Chemistry

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6th Japan–UK Symposium on Asymmetric Catalysis
Programme Summary

	Nov. 28 (Wed.)	Nov. 29 (Thr.)
9		L11 T. Shibata (Waseda University)
		L12 R. Webster (University of Bath)
10	opening	L13 R. Shintani (Osaka University)
	L1 D. Dixon (University of Oxford)	break
11	L2 M. Inoue (The University of Tokyo)	L14 D. Proctor (The University of Manchester)
	L3 R. Kuwano (Kyushu University)	L15 M. Sawamura (Hokkaido University)
12	lunch	lunch
13	L4 T. Uchida (Kyushu University)	L16 J. Burton (University Oxford)
	L5 M. Willis (University of Oxford)	L17 T. Ohshima (Kyushu University)
14	L6 T. Ooi (Nagoya University)	L18 A. Smith (University of St Andrews)
	break & poster	break & poster
16	L7 J. Bures (The University of Manchester)	L19 M. Terada (Tohoku University)
	L8 H. Ohmiya (Kanazawa University)	L20 V. Gouverner (University of Oxford)
17	L9 M. Gaunt (University of Cambridge)	L21 K. Maruoka (Kyoto University)
	L10 M. Kanai (The University of Tokyo)	closing
	mixer	

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Venue: Centennial Hall Kyushu University School of Medicine, Kyushu University

Programme

Nov. 28 (Wed)

10:20–10:30 Opening Remarks

Chairperson: Keiji Maruoka

10:30–11:00 *Astex Pharmaceuticals Lecture*

L-1: **Darren J. Dixon** (University of Oxford)

Catalytic Approaches for Simplifying Complex Molecule Synthesis

11:00–11:30 L-2: **Masayuki Inoue** (The University of Tokyo)

Radical-based Approach for Synthesis of Complex Natural Products

11:30–12:00 L-3: **Ryoichi Kuwano** (Kyushu University)

Control of Chemoselectivity in Asymmetric Hydrogenation of Fused Heteroarenes

12:00–13:30 Lunch

Chairperson: David Procter

13:30–14:00 L-4: **Tatsuya Uchida** (Kyushu University)

Asymmetric C–H Functionalization

14:00–14:30 *Strem Chemical Lecture*

L-5: **Michael Willis** (University of Oxford)

New Catalytic Reactions Using Sulfur Dioxide

14:30–15:00 L-6: **Takashi Ooi** (Nagoya University)

Molecular Design and Asymmetric Catalysis of Weakly-Coordinating Chiral Anions

15:00–16:00 Break and Poster

- Chairperson: Takashi Ooi
- 16:00–16:30 *Communications Chemistry Lecture*
L-7: **Jordi Bures** (University of Manchester)
Enabling new and better aminocatalytic processes through mechanistic studies
- 16:30–17:00 L-8: **Hirohisa Ohmiya** (Kanazawa University)
Reductive Umpolung Transformations of Aldehydes
- Chairperson: Véronique Gouverneur
- 17:00–17:30 *RSC Chemical Science Lecture*
L-9: **Matthew Gaunt** (University of Cambridge)
A Protein Functionalization Platform Based on Selective Reactions at Methionine
- 17:30–18:00 L-10: **Motomu Kanai** (The University of Tokyo)
Protecting Group-Minimal Asymmetric Catalysis
- 18:30– Mixer

Nov. 29 (Thr)

- Chairperson: Motomu Kanai
- 9:10– 9:40 L-11: **Takanori Shibata** (Waseda University)
Asymmetric Synthesis of Heteroatom-Containing Medium Ring Compounds
- 9:40–10:10 *Nature Chemisty Lecture*
L-12: **Ruth L. Webster** (University of Bath)
Iron catalyzed transfer hydrogenation and regioselective deuteration reactions
- 10:10–10:40 L-13: **Ryo Shintani** (Osaka University)
Catalytic Asymmetric Synthesis of Silicon-Stereogenic Dibenzosiloles and Related Compounds
- 10:40–11:00 Break

- Chairperson: Michael Willis
- 11:00–11:30 *Nature Reviews Chemistry Lecture*
L-14: **David J. Procter** (University of Manchester)
Asymmetric Copper-catalyzed Borylative Cross-coupling
- 11:30–12:00 L-15: **Masaya Sawamura** (Hokkaido University)
Catalytic Asymmetric Borylation of Unactivated Methylene C–H Bonds
- 12:00–13:30 Lunch
- Chairperson: Masahiro Terada
- 13:30–14:00 L-16: **Jonathan Burton** (University of Oxford)
Oxonium Ions, Rearrangements and Natural Products
- 14:00–14:30 L-17: **Takashi Ohshima** (Kyushu University)
Construction of Tetrasubstituted Carbon Stereocenters via Catalytic Nucleophilic Additions to N-Unprotected Ketimines
- 14:30–15:00 L-18: **Andrew D. Smith** (University of St Andrews)
Enantioselective Lewis Base Catalysis using Isothioureas
- 15:00–16:00 Break and Poster
- Chairperson: Darren Dixon
- 16:00–16:30 L-19: **Masahiro Terada** (Tohoku University)
Enantioselective Catalysis by Chiral Bis(guanidino)iminophosphorane Organosuperbase
- 16:30–17:00 *RSC Chemical Communications Lecture*
L-20: **Véronique Gouverneur** (University of Oxford)
Asymmetric Catalytic Fluorination with Metal Alkali Fluoride
- 17:00–17:30 L-21: **Keiji Maruoka** (Kyoto University)
Design of High-Performance Organoradical Catalysts with Privileged Structures for Asymmetric Catalysis
- 17:30–17:40 Closing Remarks

Poster Presentation

- P-1 **Yusuke Makida**, Yasuhiro Matsumoto, Ryoichi Kuwano (Kyushu University)
Palladium-Catalyzed Decarboxylation of Benzyl Benzoates
- P-2 **Yu Suganomata**, Kosuke Yamamoto, Masami Kuriyama, Osamu Onomura (Nagasaki University)
Asymmetric Oxidation of Glycerins to Glyceric Acids Using Chiral Bisoxazoline Ligands
- P-3 **Takaya Yasudomi**, Hiroyuki Yakushiji, Hiroki Yamamoto, Kohei Torikai, Makoto Ebine, Tohru Oishi (Kyushu University)
Unified Synthesis of the DEF and GHI Rings of Maitotoxin
- P-4 **Keitaro Umeno**, Makoto Ebine, Tohru Oishi (Kyushu University)
Synthetic Study of the C30–C64 Section of Karlotoxin 2
- P-5 **Tomohiro Umeno**, Atsushi Ueda, Takuma Kato, Mitsunobu Doi, Masakazu Tanaka (Nagasaki University)
Development of Peptide Foldamers for Asymmetric Reactions
- P-6 **Yue Wang**, Daisuke Tomihama, Masatoshi Ishida, Hiroyuki Furuta (Kyushu University)
Development of a Novel Blackened Porphyrinoid by N-Confusion Modification and Hetero-Metalation
- P-7 **Ru Feng**, Eman Al-Naamani, Alkinoli Saeki, Hiroyuki Furuta, Soji Shimizu (Kyushu University)
Synthesis of Pyrrolopyrrole-aza-BODIPY-based Polymer for Organic Photovoltaic Application
- P-8 **Kodai Wakafuji**, Hyemin Cho, Takashi Kamachi, Eiji Yamamoto, Makoto Tokunaga (Kyushu University)
Phase-Transfer Catalytic Asymmetric Alcoholysis of N-Protected Amino Acid Esters and Azlactones via Dynamic Kinetic Resolution
- P-9 **Ryohei Yonesaki**, Yuta Kondo, Walaa Akkad, Masanao Sawa, Kazuhiro Mosisaki, Hiroyuki Morimoto, Takashi Ohshima (Kyushu University)
Novel C_1 -Symmetric BINOL Phosphoric Acid-Catalyzed Direct Enantioselective Friedel-Crafts-Type Alkylation to *N*-Unprotected α -Ketiminoester

- P-10 **Atsushi Tahara**, Yusuke Sunada, Hideo Nagashima (Kyushu University)
Theoretical Studies for Hydrogenation of Multisubstituted Alkenes Catalyzed by Disilametallacycle Complexes Bearing Isocyanide Ligands (M=Fe, Ru)
- P-11 **Kazunobu Igawa**, Daisuke Yoshihiro, Akihiro Kuroo, Yusuke Abe, Katsuhiko Tomooka (Kyushu University)
Asymmetric Synthesis of Silacyclopentanes Based on Enantioselective β -Elimination of Silacyclopentene Oxide
- P-12 **Yuki Morita**, Manuel Gemander, Masaki Morita, Mikiko Sodeoka, Go Hirai (Kyushu University)
Synthesis of Biologically Active Molecules Based on Complex Right-side Structure of Physalins
- P-13 **Yuki Nakayama**, Yusuke Makida, Ryoichi Kuwano (Kyushu University)
Iridium-Catalyzed Asymmetric Hydrogenation of Pyridine Rings of Azaindoles
- P-14 **Daiki Doiuchi**, Hiroki Hayashi, Tatsuya Uchida (Kyushu University)
Ruthenium-Catalyzed 3° C–H Bond Selective Hydroxylation
- P-15 Sachie Arae, Shota Beppu, Kazunobu Igawa, Katsuhiko Tomooka, **Ryo Irie** (Kumamoto University)
Asymmetric Synthesis of Benzo[*a*]carbazole Derivatives with Axial Chirality by Enantioselective Hydroarylation of Alkynes Catalyzed by Chiral Bases
- P-16 **Sachie Arae**, Ryo Kobayashi, Taishi Imazato, Takaaki Mori, Nobutsugu Hamamoto, Hitoshi Fujimoto, Kazunobu Igawa, Katsuhiko Tomooka, Ryo Irie (Kumamoto University)
Highly Regioselective Postmodification of Benzodiheterole-based Heterohelicenes and Substituent Effects on Their Stereochemical Behavior