Welcome to the International Symposium on
“Integration of Chemistry and Bioscience” Waseda University

On behalf of the organizers it is our great pleasure to welcome you to the International Symposium on “Integration of Chemistry and Bioscience”. The symposium is supported by the "Grants for Excellent Graduate Schools (Practical Chemical Wisdom)" Project, Ministry of Education, Culture, Sports, Science, and Technology of Japan.

The program of this symposium is designed to give the participants, especially young Ph. D. students, ample time for scientific discussion and opportunity to associate with invited lecturers. We hope that all participants find the symposium stimulating and enjoyable.

Program Leader
Kazuyuki Kuroda

International Symposium on
"Integration of Chemistry and Bioscience"

Date: January 15 - 16, 2014
Venue: Conference Room 03-05 2nd Floor, Building #63, Nishiwaseda Campus, Waseda University

Program:

January 15 (Wed)

13:30-13:35 Welcome Address
Kazuyuki Kuroda (Program Leader, Waseda University)

13:35-13:40 Opening Remarks
Shinji Takeoka (Waseda University)

(Chairperson: Prof. Satoshi Tsuneda)
13:40-14:25 "Light and Fat – Chemical Tools to Study Neutral Lipid Storage"
Christoph Thiele (University of Bonn)

14:25-14:45 "Chemical Biology of Stem Cell Differentiation"
Yoichi Nakao (Waseda University)

(Chairperson: Prof. Shinji Takeoka)
14:45-15:30 "Graphene-Based Ultrathin Films and Their Anti-Microbial Properties"
Rigoberto C. Advincula (Case Western Reserve University)

15:30-15:50 "Single-cell Analysis of Bacteria for the Understanding of Their Molecular Characteristics in Environments "
Haruko Takeyama (Waseda University)

(Short Break)

(Chairperson: Prof. Suguru Noda)
16:00-17:10 Short Oral Presentation (3 min. for each presentation with odd presentation numbers)

17:10-18:40 Poster Session and Discussion

January 16 (Thu)

9:00-9:10 Welcome Address
Katsuichi Uchida (Vice President, Waseda University)

(Chairperson: Prof. Toru Asahi)

9:10- 9:40 "Regulation of Lysosomal Sphingolipid Homeostasis"
Michael Hoch (University of Bonn)

9:40-10:10 "Control of Stem Cell Differentiation and Skin Cancer by Trim-NHL Proteins"
Waldemar Kolanus (University of Bonn)

10:10-10:30 "Hypoxic Response and Lipid Metabolism"
Nobuhito Goda (Waseda University)

(Short Break)

(Chairperson: Prof. Toshio Ohshima)

10:40-11:25 "Microengineered Hydrogels for Stem Cell Bioengineering and Tissue Regeneration"
Alireza Khademhosseini (Harvard University)

11:25-11:50 "Visualization of Cell Signaling by Genetically Encoded Fluorescent Indicators "
Tetsuya Kitaguchi (Waseda Bioscience Research Institute in Singapore)

(Lunch Time)

(Chairperson: Prof. Kenichi Oyaizu)

12:45-13:30 "Mild Acid and Oxidation-Responsive Polymers as Drug Delivery Carriers Engineering"
Zi-chen Li (Peking University)

13:30-13:50 "Highly Efficient Total Synthesis and Biological Evaluation of (–)-Scabronines"
Masahisa Nakada (Waseda University)

(Short Break)

(Chairperson: Assoc. Prof. Toshiyuki Momma)

14:00-14:20 "Engineering Biomaterial Properties Using SpyTag-SpyCatcher Chemistry: From Protein Topology to the Network of Spies"
Wenbin Zhang (Peking University)

14:20-14:40 "Design and Preparation of Nano-interfaces and Nano-materials for Biosensing and

Biomedical Applications”
Takuya Nakanishi (Waseda University)

14:40-15:00 “Oxidation Biocatalysts for the Synthesis of High-value Chemicals”
Toshiki Furuya (Waseda University)

(Short Break)

(Chairperson: Assoc. Prof. Atsushi Shimojima)

15:10-16:20 Short Oral Presentation (3 min. for each presentation with even presentation numbers)

16:20-17:50 Poster Session and Discussion

17:50-18:00 Closing Remarks
Hiroyuki Nishide (Dean, Graduate School of Advanced Science and Engineering, Waseda University)

Poster Presentations

P1. "Electrochemical synthesis of Cu silicide embedded in Si-O-C composite for anode material of lithium secondary battery"
Moongook Jeong, Tokihiko Yokoshima, Hiroki Nara, Toshiyuki Momma, and Tetsuya Osaka

P2. "Carbon coated Li2S as high performance cathode for lithium ion battery"
Jun Liu, Hiroki Nara, Tokihiko Yokoshima, Toshiyuki Momma, and Tetsuya Osaka

P3. "Antibody-immobilized field effect transistor biosensor for quantitative detection of cytokeratinfragment 21-1 in blood serum"
Shanshan Cheng, Sho Hideshima, Shigeki Kuroiwa, Takuya Nakanishi, and Tetsuya Osaka

P4. "Effect of trace H_2O on charge-discharge cycle performance for Li metal battery"
Norihiro Togasaki, Toshiyuki Momma, and Tetsuya Osaka

P5. "Screening of novel poly(amino acid)-producing microorganisms by utilizing an electrostatic interaction"
Daisuke Aoyagi, Takahiro Ohkubo, Shibahara Hiroki, and Kuniki Kino

P6. "Oxalic acid production by citric acid-producing *aspergillus niger* overexpressing the oxaloacetate hydrolase gene *oahA*"
Keiichi Kobayashi and Kohtaro Kirimura

P7. "Topotactic coversion of β-helix-layered silicate into AST-type zeolite through successive interlayer modifications"
Yusuke Asakura, Ryosuke Takayama, Toshimichi Shibue, and Kazuyuki Kuroda

P8. "Controlled Au deposition inside mesoporous silica for preparation of nanostructured Au"
Masaki Kitahara and Kazuyuki Kuroda

P9. "Catalytic hydrogenation of carbon dioxide over metal supported catalyst assisted by an electric field"
Kazumasa Oshima, Yukako Nogami, Shuhei Ogo, and Yasushi Sekine

P10. "Designing the configuration of carbon particles aggregate with an electric filed"
Kei Mukawa, Takashi Sugiyama, and Yasushi Sekine

P11. "Selective recycle process of organic acids from sulfuric acidic waste water"
Naoko Imura and Izumi Hirasawa

P12. "Synthetic studies of aconitine"
Tatsuya Nakamura and Seijiro Hosokawa

P13. "Elimination of incorporated boron in silica with precipitation control and solvent extraction using a microchannel device for high-purity source of solar-grade silicon"
Nobufumi Matsuo, Yuki Matsui, Takafumi Ishihara, Yasuhiro Fukunaka, and Takayuki Homma

P14. "Hexane isomers permeation properties of tubular silicalite-1 membrane"
Motomu Sakai, Takuya Kaneko, and Masahiko Matsukata

P15. "Near-field imaging of silver hexagonal plates"
Hidetoshi Mizobata and Kohei Imura

P16. "CRBP1, a novel microtubule plus end tracking protein, regulates cell polarization including

directional migration and neurite extension”
Yusuke Mori, Satoka Doda, Naoki Kishida, Shota Yamanaka, Yuki Taniyama, Satomi Aoki, Hideki Nakamura, Takafumi Inoue, Naoya Takeda, and Yasuhiko Terada

P17. “Acceleration of resolution-of-identity method based on divide-and-conquer with GPGPU”
Takeshi Yoshikawa and Hiromi Nakai

P18. “Highly stereoselective total syntheses of (–)-scabronines G and A, and (–)-episcabronine A”
Yu Kobayakawa and Masahisa Nakada

P19. “Research on collective enantioselective total synthesis of PPAPs”
Yuta Uetake, Yuya Endo, and Masahisa Nakada

P20. “Catalytic asymmetric reactions of α-alkylidene β-oxo imides”
Harufumi Oyama, Kohei Orimoto, Kasuaki Enomoto, and Masahisa Nakada

P21. “Design and synthesis of C_2-symmetric binaphthyl NHC ligands and their application to asymmetric catalysis”
Kensuke Usui and Masahisa Nakada

P22. “External electric field effect on the infrared spectra of ferroelectric vinylidene fluoride/trifluoroethylene copolymer thin films”
Kenji Takashima and Yukio Furukawa

P23. “Raman spectroscopic study of polarons and bipolarons in regioregular poly(3-hexylthiophene)/ionic liquid transistors and their influences on the device”
Jun Yamamoto and Yukio Furukawa

P24. “Propose of a new identification method for the chiral space groups with two-fold screw axis and its application to chiral amino acid crystals”
Kazuhiko Ishikawa, Masahito Tanaka, Motoo Shiro, and Toru Asahi

P25. “Molecular behavior analysis of enantiomeric thalidomide in the complex metabolic systems involving chiral inversion with experimental and numerical approaches”
Yoshiyuki Ogino, Masahito Tanaka, and Toru Asahi

P26. “Targeting of light-driven proton pumps in mammalian mitochondria: Effect on cellular survival against MPTP-induced neurotoxicity”
Takeyoshi Wada, Kiyotaka Y. Hara, Toru Asahi, Kuniki Kino, and Naoya Sawamura

P27. “Electrophysiological effects of major inflammatory cytokines IL-1β, IL-6 and TNF- α on thalamic dorsal lateral geniculate nucleus relay neurons”
Vinicius N Samios and Takafumi Inoue

P28. “Spatial control of plasmonic optical fields by shaped femtosecond pulses”
Keisuke Imaeda and Kohei Imura

P29. “The role of CRMP in axonal regrowth after spinal cord injury”
Jun Nagai, Yoshiteru Kitamura, Kazuki Owada, Naoya Yamashita, Kohtaro Takei, Yoshio Goshima, and Toshio Ohshima

P30. “Lactate impaired excitation-contraction coupling in the atrial and the ventricular myocardium”
Daisuke Shimura, Yoichiro Kusakari, Nobuhito Goda, and Susumu Minamisawa

P31. “Poor elastic fiber formation and intimal thicknening in the chicken ductus arteriosus”
Eriko Omori, Toru Akaike, Ichige Kajimura, Nobuhito Goda, and Susumu Minamisawa

P32. “Identification of a novel oncogene by systematic screening using NMuMG immortalized epithelial cells and a full-length cDNA expression library”
Atsuka Matsui, Jiro Fujimoto, and Kentaro Semba

P33. “Inhibitory study on the binding of high anionic liposomes to activated platelet membrane”
Suyun Tan, Manami Arai, Naohide Watanabe, Makoto Handa, Yasuo Ikeda, and Shinji Takeoka

P34. “The molecular mechanism of cell sheet adhesion”
Yoshiyuki Kasai, Masayuki Yamato, Hiroaki Sugiyama, Ryo Takagi, Makoto Kondo, Naoya Takeda, and Teruo Okano

P35. “Biodiversity analysis of coral associated bacteria in Okinawa shallow reef”
Sayaka Suzuki, Michihiro Ito, Tetsushi Mori, Michiko C. Ojimi, Yoshikatsu Nakano, Shohei Kadena, Kazuhiko Sakai, Shoichiro Suda, and Haruko Takeyama

P36. “Metatranscriptomic analysis of bacteria in coral reef environment”
Satoshi Wakaoji, Michihiro Ito, Tetsushi Mori, Michiko C. Ojimi, Yoshikatsu Nakano, Shoichiro Suda, and Haruko Takeyama

P37. “Application of humanized mice for the evaluation of measles virus vector”
Shota Ikeno, Haruko Takeyama, and Yasuko Tsunetsugu-Yokota

P38. “Characterization of monoclonal antibodies induced by the intranasal administration with a whole-virion inactivated H5N1 Influenza vaccine in healthy human adults”
Shinji Saito, Elly van Riet, Akira Ainai, Tadaki Suzuki, Kazuyuki Ikeda, Ryo Ito, Kyousuke Senchi, Hideki Asanuma, Takato Odagiri, Yoshimasa Takahashi, Masato Tashiro, Shin-ichi Tamura, Haruko Takeyama, and Hideki Hasegawa

P39. “Identification and biochemical characterization of halisulfate 3 and suvanine as novel inhibitors of hepatitis C virus NS3 helicase from a marine sponge”
Atsushi Furuta, Kazi Abdus Salam, Idam Hermawan, Nobuyoshi Akimitsu, Junichi Tanaka, Hidenori Tani, Atsuya Yamashita, Kohji Moriishi, Masamichi Nakakoshi, Masayoshi Tsubuki, Poh Wee Peng, Youichi Suzuki, Naoki Yamamoto, Yuji Sekiguchi, Satoshi Tsuneda, and Naohiro Noda

P40. “Exploring the intestinal bacteria involved in the regulation of immune-metabolism”
Xianqin Zhang, Toshifumi Osaka, Satoshi Tsuneda

P41. “Selective enrichment of nitrifying microorganisms from oligotrophic freshwater environment”
Kengo Momiuchi, Hirotsugu Fujitani, and Satoshi Tsuneda