

【PROGRAM: Oral Session】

July 5th (Sun.)

Conference Room 101-103, 1F
Hitotsubashi Hall, Hitotsubashi University

16:00 **Interaction with Students**

16:00 **Networking and Drinks**

July 6th (Mon.)

Hitotsubashi Hall, 2F
Hitotsubashi Hall, Hitotsubashi University

10:00 **Opening Remarks**

Kyohei Takahashi
(Japan Association for Chemical Innovation)

10:10 **Special Speech** **Chemistry based Innovation in GSC Field - The Key to Japan's Revitalization -**

Sadayuki Sakakibara^{1,2}
(¹Keidanren [Japan Business Federation], ²The Chemical Society of Japan)

10:30 **Plenary
Lecture-1**

Toward "Positive" Green Sustainable Chemistry
Makoto Misono
(The University of Tokyo)

Chair: M. Matsukata

11:20 Break (10 minutes)

11:30 **Invited
Lecture-1**

Innovation policy of Japan: One of the main growth strategies in Abenomics

Kazuhito Hashimoto^{1,2,3}
(¹The University of Tokyo, ²Council for Science, Technology and Innovation, ³Council for Industrial Competitiveness)

Chair: M. Matsukata

12:10 Lunch

13:10 **Plenary
Lecture-2**

"Research-Invention-Innovation" - Key enabling technologies to master societal challenges !

Gernot Klotz
(EU Commission Horizon 2020 Advisory Group for LEIT-NMBP)

Chair: T. Tatsumi

13:50 **Plenary
Lecture-3**

Green and Sustainable Chemistry in the United States - An Overview.

David Constable
(ACS Green Chemistry Institute)

14:30 Break (10 minutes)

Chair: P. Jessop

14:40 **Invited Lecture-2** **Innovation and Chemistry: A Winning Combination for Sustainable Growth**
Carsten Sieden
(BASF)

15:20 **Invited Lecture-3** **Dow Story - For Now and For Tomorrow**
Weiguang Yao
(The Dow Chemical Company)

16:00 Break (10 minutes)

Chair: T. Adschiri

16:10 **Invited Lecture-4** **Sustainable Chemical and Materials Technologies in the KAITEKI Company**
Glenn H. Fredrickson^{1,2}
(¹Mitsubishi Chemical Holdings Corporation, ²Mitsubishi Chemical Center for Advanced Materials, University of California)

16:50 **Invited Lecture-5** **Integration and Valorisation of Multi-Step Chemical Catalytic and Biocatalytic Approaches for the Manufacture of Chemicals, Pharmaceuticals and Food Ingredients.**
Milton T W Hearn
(Monash University)

17:30 **Panel Discussion** **Theme: Toward New Developments in GSC**
Moderator: Kazuhiro Mae
Panelists: Makoto Misono, Gernot Klotz, David Constable,
Glenn H. Fredrickson, Milton T W Hearn

July 7th (Tue.)

Hitotsubashi Hall, 2F
Hitotsubashi Hall, Hitotsubashi University

Chair: H. Uyama

9:15 **Keynote-1** **EU's Research and Innovation Programme and International Cooperation**
Leonidas Karapiperis
(Delegation of the European Union to Japan)

9:45 **Keynote-2** **High performance materials from polysaccharide ester derivatives**
Tadahisa Iwata^{1,2,3}
(¹The University of Tokyo, ²CREST, ³RIKEN Institute)

10:15 **Keynote-3** **Green Polymers from Photo-responsive Dynamic Polymers to Lignin Based Polymers**
Kei Saito
(Monash University)

10:45 Break (15 minutes)

Chair: T. Adschiri

11:00 **Keynote-4** **Graphene: A self-assembly of very likeable nanomaterial in the 21st century for catalytic applications**
Yong-Chien Ling, Bhaskar Garg
(National Tsing Hua Univ.)

11:30 **Keynote-5** **Ionic liquid-based organic-inorganic composite materials as efficient green homogeneous/heterogeneous catalysts for conversion of biomass**
Shang-Bin Liu¹, Xiaoxiang Han², Ming-Yu Huang³, Chin-Te Hung¹,
Jung-Chung Wu³
(¹Academia Sinica, ²Zhejiang Gongshang Univ., ³Chinese Petroleum Corp.)

12:00 Lunch

Chair: Y. Kubota

13:00 **Keynote-6** **Electrohydrogenation of toluene by a SPE electrolyzer in organic hydride energy carrier systems**
Shigenori Mitsushima, Yasutomo Takakuwa, Yuki Sawaguchi, Yuji Kohno, Koichi Matsuzawa
(Yokohama National Univ.)

13:30 **Keynote-7** **Solvate ionic liquids for advanced lithium batteries**
Masayoshi Watanabe
(Yokohama National Univ.)

14:00 Break (10 minutes)

Chair: K. Tominaga

14:10 **Keynote-8** **Building a Greener and More Sustainable Chemical Industry in Singapore**
Keith Carpenter
(Institute of Chemical and Engineering Sciences)

14:40 **Keynote-9** **Suitable or Green or Sustainable Chemistry?**
Istvan T. Horvath
(City University of Hong Kong)

15:10 **Keynote-10** **Development of New Catalytic Reactions toward Utilization of Renewable Resources**
Shuheii Kusumoto, Kyoko Nozaki
(The Univ. of Tokyo)

15:40 Break (10 minutes)

Chair: G. Klotz

15:50 **Invited Lecture-6** **Fuel Cell Vehicle Development and Initial Market Creation**
Taiyo Kawai
(Toyota Motor Corporation)

16:30 **Invited Lecture-7** **Sustainability and the Chemical Industry**
A Multinational Environmental Company's Perspective
David Cox
(Veolia)

Chair: M. Matsukata & T. Fujitani

17:10 **Commendation Ceremony for GSC Awards**

17:30 Break (15 minutes)

July 7th (Tue.)

Star Hall, 2F
Josuikaikan Hall

17:45 **Banquet**
~20:00

July 7th (Tue.)

Conference Room, 101-102, 1F
Hitotsubashi Hall, Hitotsubashi University

Session: Organic Synthesis

Chair: S. Liu

9:15 General Presentation-1 **Integrated flow platforms for dynamic control and discovery of nanomaterials and self-optimization of organic reactions**
Victor Sans¹, Lee Cronin²
(¹University of Nottingham, ²University of Glasgow)

9:30 General Presentation-2 (Short Invited-1) **Precise synthesis of fine polyolefins by introduction of reactive functionalities in ethylene copolymerization**
Wannida Apisuk, Kotohiro Nomura
(Tokyo Metropolitan Univ.)

9:50 General Presentation-3 (Short Invited-2) **Development of Efficient Ni(II) Catalyst Systems for Olefin Hydrosilylation Reaction**
Venu Srinivas, Yumiko Nakajima, Kazuhiko Sato, Wataru Ando, Shigeru Shimada
(National Institute of Advanced Industrial Science and Technology (AIST))

10:10 **Keynote-11** **Efficient Ligand Platforms for Asymmetric Catalysis**
Anton Vidal-Ferran^{1,2}, Hector Fernandez-Perez¹, Monica Vaquero¹, Jose Luis Nunez-Rico¹, Balakrishna Bugga¹, Joan Lao¹, Laura Rovira¹, Carlos Leon¹, Lucas Carreras¹
(¹Institute of Chemical Research of Catalonia, ²Catalan Institution for Research and Advanced Studies)

10:40 Break (20 minutes)

Chair: A. Vidal-Ferran

11:00 General Presentation-4 (Short Invited-3) **Efficient Chiral Amplification System for Asymmetric Catalysis Based on Majority-Rule-Type Helical Poly(quinoxaline-2,3-diyl)s**
Yuan-Zhen Ke¹, Yuuya Nagata¹, Michinori Suginome^{1,2}
(¹Kyoto Univ., ²JST-CREST)

11:20 General Presentation-5 (Short Invited-4) **Nickel(0)-Catalyzed Highly Enantio- and Diastereo-selective Synthesis of Benzoxasiloles via Intramolecular Aryl Migration**
Ravindra Kumar, Yoichi Hoshimoto, Hayato Yabuki, Masato Ohashi, Sensuke Ogoshi (Osaka University)

11:40 General Presentation-6 **Glycerol as solvent in phenol oxidation with hydrogen peroxide - reaction mechanism**
Katarzyna Pamin¹, Jan Poltowicz¹, Sylwia Basag², Wladyslaw Kubiak³, Renata Tokarz-Sobieraj¹
(¹Polish Academy of Sciences, ²Jagiellonian Univ., ³AGH Univ. of Science and Technology)

11:55 Lunch

Session: Catalyst

Chair: K. Nozaki

13:00 General Presentation-7 **Full-spectrum-visible-light Heterogeneous Organophotocatalysis Enhanced by p-n-Semiconductor Biphasing and Multilayerization**
Keiji Nagai¹, Mohd Fairus Bin Ahmad¹, Chiharu Shinozaki¹, Tomokazu Iyoda¹, Toshiyuki Abe²
(¹Tokyo Institute of Technology, ²Hiroshima University)

13:15 General Presentation-8 **Visible Light Driven Transformation of Aliphatic Alcohols to Corresponding Esters in O₂ under Mild Conditions**
Qi Xiao, Huiyong Zhu
(Queensland University of Technology)

13:30 General Presentation-9 **Integrated simulation for design optimization of chemical processes using simple and self-consistent catalytic effectiveness factor with Predictive-SRK**
Seiya Hirohama, Francisco Brana-Mulero, Cal Depew
(Schneider Electric)

13:45 General Presentation-10 **Sustainable Templates for Mesoporous Zeolite Synthesis**
Robin J. White^{1,2,4}, Anna Fischer^{1,2}, Caren Goebel³, Arne Thomas³
(¹Univ. Freiburg, ²Freiburger Materialforschungszentrum, ³TU Berlin, ⁴Fraunhofer Institute of Solar Energy Systems)

14:00 Break (10 minutes)

Chair: F. Kakiuchi

14:10 **Keynote-12** **In situ TEM observation on the catalytic performances of supported silver and alkali carbonate for PM combustion**
Masaru Ogura^{1,2}, Kohei Kamatani¹, Kimitaka Higuchi³, Yuta Yamamoto³, Shigeo Arai³, Nobuo Tanaka³
(¹The Univ. of Tokyo, ²Kyoto Univ., ³Nagoya Univ.)

14:40 General Presentation-11 **Fischer-Tropsch catalysis - improving the catalyst for sustainable chemical processing**
Simon Kenneth Beaumont
(Durham University)

14:55 General Presentation-12 **Characterisation of solid-state ion exchanged Cu-SSZ-13 applied for the reduction of environmentally harmful NOx emissions**
Anna Clemens, Alexander Shishkin, Per-Anders Carlsson, Magnus Skoglundh, Hanna Haerelind
(Chalmers University of Technology)

15:10 General Presentation-13 **New Aquivion®/silica nanocomposite for catalytic glycerol etherification with n-butanol**
Wenhao Fang¹, Sheng Wang², Armin Liebens¹, Floryan De Campo¹, Wei Shen², Hualong Xu², Marc Pera-Titus¹, Jean-Marc Clacens¹
(¹Eco-Efficient Products and Processes Lab., ²Fudan Univ.)

July 7th (Tue.)

Room 202, 2F
Gakushikaikan

Session: Energy/Resources

Chair: M. Atobe

9:15 General Presentation-14 **Study of Reliability Degradation Indicators for Ethylene-Vinyl Acetate (EVA) Based PV Modules**
Ethan Wang¹, Chieng-Yu Peng², Chih-Chun Tsai³, Ivan Chou⁴, Carl Wang¹
(¹Underwriters Laboratories Taiwan Co. Ltd., ²Academia Sinica, ³Tamkang University, ⁴Hulk Energy Technology Co., Ltd.,)

9:30 General Presentation-15 **2-D MoSe₂ sheets/PEDOT:PSS composite film as the counter electrode for Pt-free dye-sensitized solar cells**
Yi-June Huang, Miao-Syuan Fan, Chun-Ting Li, Chuan-Pei Lee, Kuo-Chuan Ho
(National Taiwan University)

9:45 General Presentation-16 (Short Invited-5) **Towards high capacity electrochemical energy storage: stability of the Li-salt glyme complex in the Li-O₂ battery**
Morgan L. Thomas¹, Hoi-Min Kwon¹, Ryoichi Tatara¹, Kazuhide Ueno², Kaoru Dokko¹, Masayoshi Watanabe¹,
(¹Yokohama National University, ²Yamaguchi University)

10:05 General Presentation-17 (Short Invited-6) **Electrochemical Applications of Conductive Diamond Electrodes and the Tailored Design for Their Applications**
Takeshi Watanabe¹, Yasuaki Einaga^{1,2}
(¹Keio Univ., ²JST-ACCEL)

10:25 General Presentation-18 **Preparation of standalone photocatalyst plates for overall water splitting**
Takashi Hisatomi^{1,2}, Qian Wang^{1,2}, Anke Xiong¹, Jun Kubota¹, Kazunari Domen^{1,2}
(¹Univ. Tokyo, ²ARPCHEM)

10:40 Break (20 minutes)

Session: Biomass

Chair: M. Goto

11:00	Keynote-13	Waste Cooking Oil Methyl Ester Production in a Hydrodynamic Cavitation Reactor Lai Fatt Chuah, <u>Suzana Yusup</u> , Awais Bokhari (Universiti Teknologi PETRONAS)
11:30	Keynote-14	Development of Solid Heterogeneous Catalysts for Green Biofuels Yun Hin Taufiq-Yap (Universiti Putra Malaysia)
12:00	Lunch	
13:15	General Presentation-20	Palladium catalyzed, hydrogen free lignin depolymerization. <u>V. Maxim Galkin</u> , S. M. Joseph Samec (Uppsala Univ.)
13:30	General Presentation-21	Conversion of glycerol to acrolein and acrylic acid over isomorphously substituted Fe-MFI <u>Modibo Mounquengui Diallo</u> , Yannick Pouilloux, Jerome Mijoin, Sebastien Laforge (Univerty of Poitiers)
13:45	General Presentation-22	Effect of Phosphotungstic Acid Loading on Its Structure and Activity in Glycerol Dehydration to Acrolein for Mesoporous Silica Supported Phosphotungstic Acid Catalyst <u>Licheng Liu</u> , Bo Wang, Armando Borgna (The Agency for Science, Technology and Research (A*STAR))
14:00	Break (10 minutes)	
14:10	General Presentation-23	Ag-Cu/MxOy catalysts for selective glycerol hydrogenolysis: role of the catalyst composition and reaction conditions <u>Zelazny Agata</u> ¹ , Samson Katarzyna ¹ , Grabowski Ryszard ¹ , Sliwa Michal ¹ , Ruggiero Malgorzata ¹ , Pamin Katarzyna ¹ , Kornas Agnieszka ¹ , Golabek Kinga ² (¹ Polish Academy of Sciences, ² Jagiellonian Univ.)
14:25	General Presentation-24	Solvent free synthesis of γ-valerolactone by homogeneous hydrogenation of biomass-derived levulinic acid <u>Laszlo T. Mika</u> , Jozsef M. Tukacs, Balint Fridrich (Budapest University of Technology and Economics)
14:40	General Presentation-26	Enzymatic Saccharification of Acid Alkali Pre-treated Mill-run Sugarcane Bagasse-(1) <u>Thandeka Mkhize</u> ¹ , Lethiwe Mthembu ¹ , Nirmala Deenadayalu ¹ , Prashant Reddy ^{1,3} , Amandeep Kaur ² , Ramesh C Kuhad ² (¹ Durban Univ. of Technology, ² Univ. of Delhi, ³ Univ. of Kwa-zulu Natal)

14:55 General Presentation-27 **Enzymatic Saccharification of Acid Alkali Pre-treated Depithed Sugarcane Bagasse-(2)**
Lethiwe Mthembu¹, Thandeka Mkhize¹, Amandeep Kaur², Ramesh Kuhad², Nirmala Deenadayalu¹, Prashant Reddy^{1,3}
(¹Durban Univ. of Technology, ²Univ. of Delhi,)

July 7th (Tue.)

Room 203, 2F
Gakushikaikan

Session: Green

Chair: I. Horvath

9:30 General Presentation-28 **Catalytic depolymerization of humins: A step towards valorization**
Shilpa Agarwal, Erik Heeres
(University of Groningen)

9:45 General Presentation-29 **Green synthesis of valuable chemicals from woody biomass**
Aritomo Yamaguchi^{1,2}, Osamu Sato¹, Naoki Mimura¹, Masayuki Shirai^{1,3}
(¹National Institute of Advanced Industrial Science and Technology (AIST),
²JST-PRESTO, ³Iwate University)

10:00 General Presentation-30 (Short Invited-7) **Thermal property of silk fibroin: relationship between glass transition temperatures and water molecules**
Kenjiro Yazawa, Keiji Numata
(RIKEN)

10:20 General Presentation-31 (Short Invited-8) **Investigation of polyhydroxyalkanoates (PHAs) production in photosynthetic purple bacteria**
Mieko Higuchi-Takeuchi, Keiji Numata
(RIKEN)

10:40 Break (20 minutes)

Chair: K. Carpenter (under commission)

11:00 General Presentation-32 **Fujifilm`s approach to water problems**
Yasufumi Nakai
(FUJIFILM Corporation)

11:15 General Presentation-33 **Unprecedented Alkali Metal Amide Catalyzed Formal C(sp³) H Bond Activation⁽¹⁾**
Wei Bao, Hanno Kossen, Uwe Schneider
(The Univ. of Edinburgh)

11:30 General Presentation-34 **PRO(Pressure Retarded-Osmosis) as A Development of Renewable Electrical Energy**
Adi Nurcahyo, Maghfira Fauzia
(Univesity of Indonesia)

11:45 General Presentation-35 **Green Chemistry Education through Environmentally benign Experiments**
Kazuko Ogino¹, Keiko Shoji², Yasunao Kuriyama³
(¹Tohoku University, ²Shukoh Middle School, ³Yamagata University)

12:00 Lunch

13:00	General Presentation-36	Extractive of Value-Added Components from Sugar Cane Bagasse Nirmala Deenadayalu (Durban University of Technology)
13:15	General Presentation-37	Recycled 'Al' Agro-waste for the Extraction of Carcinogenic Chloroethenes <u>Geetha Selvaraju</u> , Nor Kartini Abu Bakar (Univ. of Malaya)
13:30	General Presentation-38	Magnetic Iron Oxide Nanofibers with Hierarchical Structure for Water Treatment <u>Qiang Gao</u> ^{1,2} , Chunxia Gao ¹ , Xinyue Wang ¹ , Ningjun Tong ¹ , Mingqiao Ge ¹ (¹ Jiangnan University, ² Fudan University)
13:45	General Presentation-39	Fabrication of 3D Micro-Structured Materials by Biotemplating Process <u>Kaori Kamata</u> , Zhenzi Piao, Toshihiro Yamada, Tomokazu Iyoda (Tokyo Inst. of Tech.)
14:00	Break (10 minutes)	
		Chair: K. Saito (under submission)
14:10	General Presentation-40	Study on the flocculation mechanism of the lysine-treated pectins by analysis of their structure <u>Shunsuke Sato</u> , Makiko Enoki (Tokyo Univ. of Marine Science and Technology)
14:25	General Presentation-41	Acid/Base Sensitive, Conformationally Switchable Fluorescent Oligophenol Foldamers as Sensors for Patterned Recognition of Amines/Ammonia <u>Chang Sun</u> ¹ , Changhai Xu ¹ , Zhiyong Huang ¹ , Huaqiang Zeng ² (¹ Jiangnan Univ., ² Inst. of Bioengineering and Nanotechnology)
14:40	General Presentation-42	Photo-responsive self-assemblies based on thymine incorporated bolaamphiphiles <u>Ahmed.S. Al-Shereiqi</u> , Ben J. Boyd, Kei Saito (Monash University)
14:55	General Presentation-43	Environmentally benign Pickering emulsion polymerized magnetic composite particles and their magneto-response Seung Hyuk Kwon, <u>Hyoung Jin Choi</u> (Inha Univ.)
15:10	General Presentation-44	Development of new type bioflocculant using sea algae and plants from the viewpoint of commercial applications <u>Makiko Enoki</u> ¹ , Shunsuke Sato ¹ , Mai Takase ² (¹ Tokyo Univ. of Marine Science and Technology, ² The Univ. of Tokyo)

July 8th (Wed.)

Hitotsubashi Hall, 2F
Hitotsubashi Hall, Hitotsubashi University

Chair: T. Iwata

10:10 **Invited
Lecture-8** **Dream Catalysts for Green Sustainable Chemistry**
Shu Kobayashi
(The Univ. of Tokyo)

10:50 Break (15 minutes)

Session: Special

Chair: H. Shimada

11:05 **GSCA-1** **Minister of Economy, Trade and Industry GSC Award**
**Development and commercialization of a high performance
transparent plastic utilizing a plant-derived raw material**
Masanori Yamamoto
(Mitsubishi Chemical Corporation)

11:25 **GSCA-2** **Minister of Education, Culture, Sports, Science and Technology GSC Award**
A study on depolymerization of cellulosic biomass by solid catalysts
Atsushi Fukuoka
(Hokkaido University)

11:45 **GSCA-3** **Minister of the Environment GSC Award**
**Development of Photovoltaic Protective Film for high durability and low
environmental impact**
Tadashi Ito, Akira Hatakeyama, Atsushi Kawashima, Yukio Shirokubo,
Junichi Makino
(FUJIFILM Corporation)

12:05 Lunch

13:15 **Keynote-15** **What is "Sustainable Carbon Chemistry"?**
Atsushi Iwai
(Japan Petrochemical Industry Association)

Chair: H. Abe

13:45 General
Presentation-45 **Development of high capacity magnetic tape as low power
consumption storage media**
Hitoshi Noguchi, Osamu Shimizu
(FUJIFILM Corporation)

14:00 **Keynote-16** **CO₂-Switchable Surfaces**
Philip G. Jessop, Michael F. Cunningham
(Queen's Univ.)

14:30 Break (30 minutes)

15:00 **Invited
Lecture-9** **Supercritical Fluids as Green Solvents**
Youn-Woo Lee
(Seoul National University)

Chair: D. Constable (under commission)

15:40 **Invited Lecture-10** **New Carbon Sources for the Energetic and Chemical Value Chain: Challenges and Opportunities for Green Chemistry**
Walter Leitner
(RWTH Aachen University)

Chair: H. Shimada

16:20 **Plenary Lecture-4** (Ministry of Economy, Trade and Industry)

Chair: M. Atobe

16:40 **Commendation Ceremony for GSC Poster Award**

16:50 **Closing Remarks**

Hiroaki Ishizuka
(Japan Association for Chemical Innovation)

July 8th (Wed.)

Conference Room, 101-102, 1F
Hitotsubashi Hall, Hitotsubashi University

Session: Catalyst

Chair: J. N. Kondo

11:05 General Presentation-46 **Catalytic affinities of magnetic nano-Fe₃O₄-adorned calix[n]arene derivatives in water**
Serkan Sayin
(Giresun University)

11:20 General Presentation-47 **Green Synthesis of N-Mannich Bases of 3, 4 Dihydropyrimidin-2(1H)-ones by Using Fe₃O₄@SiO₂@Et-PhSO₃H as Recyclable and Magnetically Separable Catalyst**
Deepak Nagrik
(G.S. Science, Arts and Commerce College)

11:35 General Presentation-48 **Nano-size perovskite catalyst synthesised by reactive grinding for diesel soot oxidation**
Ram Prasad, Anupama Mishra
(Indian Institute of Technology (BHU))

11:50 General Presentation-49 **Development of a low cost 'green' technology for degradation of dyes and material disinfection using iron**
Claudio Kendi Morikawa
(National Agriculture and Food Research Organization)

12:05 Lunch

Chair: F. Kakiuchi

13:15 General Presentation-50 **An Efficient Production of Benzene from Benzoic Acid in Subcritical Water Using a Copper (I) Oxide Catalyst**
Qingxin Zheng, Masato Morimoto, Toshimasa Takaohashi
(National Institute of Advanced Industrial Science and Technology (AIST))

13:30 General Presentation-51 **Bio-inspired FeS nano-catalyst for CO₂ activation and conversion**
Nelson Y. Dzade^{1,2}, Alberto Roldan^{1,2}, Nora H. de Leeuw^{1,2}
(¹University College London, ²Utrecht University)

13:45 General Presentation-52 **Solid acid catalysts in synthesis of levulinic acid from furfuryl alcohol**
Ilian Guzman, Belen Guemez, Jose Cambra, Jesus Requies, Pedro Arias
(University of Basque Country (UPV/EHU))

14:00 General Presentation-53 **Preparation, properties, and application of mesoporous sulfated zirconia nanoparticles**
Gong-Yi Guo¹, Yu-Li Chen²
(¹Shanghai Jiao Tong University, ²Shanghai University)

July 8th (Wed.)

Room 202, 2F
Gakushikaikan

Session: Polymer

Chair: K. Sudesh (under commission)

11:05 **Keynote-17** **Toughening PLA and PLA/Thermoplastic Starch Films based on Isotropically Small Crystallites initiated by Biaxial-stretching**
Piyawanee Jariyasakoolroj¹, Wannee Chinsirikul², Kohji Tashiro³,
Suwabun Chirachanchai¹
(¹Chulalongkorn University, ²Ministry of Science and Technology Thailand, ³Toyota Technological Institute)

11:35 General Presentation-54 **Novel Biomaterial Membranes for Separation Applications**
Alina Kudasheva¹, Yuichiro Hirota¹, Yutaka Kawahara², Akira Ito¹
(¹Tokyo Institute of Technology, ²Gunma University)

11:50 General Presentation-55 **Flexible OLEDs Fabricated by full Roll to Roll Process**
Takashi Minakata, Mitsuru Tanamura, Yasuhiro Mitamura, Akira Sugimoto, Yukito Yada
(CEREBE (Chemical materials Evaluation and Research BAse))

12:05 Lunch

13:15 **Keynote-18** **Biosynthesis, biorecovery and application of polyhydroxyalkanoates produced from oil palm products**
Kumar Sudesh
(Univ. Sains Malaysia)

13:45 General Presentation-56 **Transition-Metal-Free Controlled Polymerization of 2-fluoroaryl-5-trimethylsilylthiophenes**
Takanobu Sanji, Junko Kakinuma, Tomokazu Iyoda
(JST-ERATO and Tokyo Institute of Technolog)

14:00 General Presentation-57 **Controlling Polymer and Nanoparticle Assembly by Three Independent Interactions**
Dan Zhang¹, Guanghua Yu¹, Zhu Long¹, Robert Pelton²
(¹Jiangnan University, ²McMaster University)

14:15 General Presentation-58 **A Sustainable Process for Production of Nanostructured Polymer/Inorganic Composite Particles**
Hiroshi Yabu^{1,2}, Takeshi Higuchi²
(¹Tohoku University, ²PRESTO, JST)

Session: Reactive Media

Chair: H. Abe

- | | | |
|-------|-------------------------|--|
| 11:05 | Keynote-19 | <p>Subcritical and Supercritical Fluid Technology for Natural Product Extraction and Conversion of Biomass to Fuels and High Value Chemicals</p> <p><u>Artiwan Shotipruk</u>¹, Panatpong Boonnoun¹, Motonobu Goto², Mitsuru Sasaki³, Armando T. Quitain³
(¹Chulalongkorn Univ., ²Nagoya Univ., ³Kumamoto Univ.)</p> |
| 11:35 | Keynote-20 | <p>Hydrothermal and Supercritical CO₂ Extraction of Phytochemical Compounds from Natural Products</p> <p>Siti Machmudah
(Sepuluh Nopember Institute of Technology)</p> |
| 12:05 | Lunch | |
| 13:15 | General Presentation-59 | <p style="text-align: right;">Chair: S. Machmudah</p> <p>Hybrid Extraction Process Using Two-Phase Green Solvent of Supercritical Carbon Dioxide and Liquid Water</p> <p><u>Motonobu Goto</u>¹, Siti Machmudah², Wahyudiono¹, Hideki Kanda^{1,3}, Ryuichi Fukuzato⁴
(¹Nagoya University, ²Sepuluh Nopember Institute of Technology, ³Japan Science and Technology Agency, ⁴SCF Techno-Link,.Inc.)</p> |
| 13:30 | General Presentation-60 | <p>Efficient-Oxygen Induced Decomposition of Melt-Processable Fluoropolymers in Subcritical and Supercritical Water</p> <p><u>Hisao Hori</u>¹, Takehiko Sakamoto¹, Kenta Ohmura¹, Haruka Yoshikawa¹, Tomohisa Seita¹, Tomoyuki Fujita², Yoshitomi Morizawa²
(¹Kanagawa Univ, ²Asahi Glass Co.)</p> |
| 13:45 | General Presentation-61 | <p>Surfactant-Free Supercritical Hydrothermal Synthesis of high-crystalline Pyrochlore-type La₂Zr₂O₇ Nanoparticles for Coating process</p> <p><u>Daisuke Hojo</u>, Hiroaki Ohara, Tsutomu Aida, Takiro Noguchi, Nobuaki Aoki, Gimyeong Seong, Seiichi Takami, Tadafumi Adschiri
(Tohoku Univ.)</p> |
| 14:00 | General Presentation-62 | <p>Direct alpha arylation of ethers over metal loaded TiO₂ photocatalysts</p> <p><u>Akanksha Tyagi</u>, Tomoya Matsumoto, Hisao Yoshida
(Kyoto University)</p> |
| 14:15 | General Presentation-63 | <p>Conversion of 5-hydroxymethylfurfural to 5-dimethylfuran in supercritical carbon dioxide medium</p> <p><u>Maya Chatterjee</u>, Takayuki Ishizaka, Hajime Kawanami
(National Institute of Advanced Industrial Science and Technology (AIST))</p> |