

## ACBS2018b Scientific Program

Organized by: Biomass Division, Japan Institute of Energy

Co-organized by: Asia Biomass Association, Bogor Agricultural University (IPB), Hiroshima University

Date: July 31st, 2018

Venue: IPB International Convention Center at Botani Square, Bogor, Indonesia (See Venue information)

9:00

### Opening celemony

#### Plenary lecture

**Chair: Dr. Yukihiro Matsumura (Hiroshima University)**

9:15

PL1

Trends of Biomass Utilization in Japan Under International Relations  
Masahiro SAMEJIMA

(Department of Biomaterial Sciences, Graduate School of Agricultural and Life Sciences, The University of Tokyo, Japan)

#### Oral presentation 9:50-12:00, 14:10-17:30

#### Session OA Biomass resource and pretreatment

**Chair: Dr. Hiroshi Nonaka (Mie University, Japan)**

9:50

OA1

Xylan as another Recalcitrant Factor on Enzymatic Saccharification of Lignocellulosic Biomass

Kiyoshi SAKURAGI<sup>a\*</sup>, Miki KOKUBO<sup>b</sup>, Kiyohiko IGARASHI<sup>b</sup>, Masahiro SAMEJIMA<sup>b</sup>

(<sup>a</sup> Central Research Institute of Electric Power Industry, Japan, <sup>b</sup> The University of Tokyo, Japan)

10:05

OA2

Detoxification of Sap Squeezed from Old Oil Palm Trunks Felled for Replanting for Efficient Lactic Acid Production

Takamitsu ARAI<sup>\*</sup>, Kunasundari BALAKRISHNAN, Sudesh KUMAR, Othman SULAIMAN, Rokiah HASHIM, Shimpei AIKAWA, Akihiko KOSUGI

(Japan International Research Center for Agricultural Sciences (JIRCAS), Japan)

10:20

OA3

Influence of Intercropping on Immature Oil Palm Growth and CO<sub>2</sub> Emission After Replanting of Smallholder Oil Palm

Hariyadi<sup>a\*</sup>, Purwanto MYJ<sup>b</sup>, Bayuardi W<sup>a</sup>, Diniaty R<sup>a</sup>, Mulyadi T<sup>a</sup>

(<sup>a</sup> Department of Agronomy and Horticulture, Faculty of Agriculture, Bogor Agricultural University (IPB), Indonesia, <sup>b</sup> Department of Civil and Environmental Engineering, Faculty of Agricultural Technology, Bogor Agricultural University (IPB), Indonesia)

10:35

OA4

Hydrothermal Pretreatment of Cellulose-Hemicellulose-Lignin Mixture in Hot Compressed Water

Yukihiro MATSUMURA<sup>a\*</sup>, Novi SYAFTIKA<sup>a</sup>, Obie FAROBIE<sup>b</sup>, Erliza HAMBALI<sup>b</sup>, Tau Len-Kelly YONG<sup>c</sup>, Soh Kheang LOH<sup>d</sup>

(<sup>a</sup> Hiroshima University, Japan, <sup>b</sup> Bogor Agricultural University (IPB), Indonesia, <sup>c</sup> University of Kuala Lumpur, Malaysia, <sup>d</sup> Malaysian Palm Oil Board, Malaysia)

*(Break 10:50-11:00)*

#### Session OB Gasification and combustion

**Chair: Dr. Yoshimitsu Uemura**

11:00

OB1

Making Biomass Gasification Feasible: a Policy Strategy to Increase Electrification Ratio in Indonesia

Dodik Ridho NURROCHMAT<sup>a\*</sup>, Mira YULIANTI<sup>b</sup>, Budi KUNCAHYO<sup>a</sup>

(<sup>a</sup> Department of Forest Management, Faculty of Forestry, Bogor Agricultural University (IPB), Indonesia, <sup>b</sup> Ministry of Environmental and Forestry of the Republic of Indonesia, Indonesia)

11:15

OB2

Assessing Optimal Models of Plantation Forests for Biomass Gasification in Indonesia

Mira YULIANTI<sup>a</sup>, Dodik Ridho NURROCHMAT<sup>b\*</sup>, Budi KUNCAHYO<sup>b</sup>

(<sup>a</sup> Ministry of Environment and Forestry of the Republic of Indonesia, Indonesia, <sup>b</sup> Department of Forest Management, Faculty of Forestry, Bogor Agricultural University (IPB), Indonesia)

- 11:30 OB3 The Influence of Wood Pellet Feedstock Water Content on Tar Component in Biomass System Using Downdraft Gasifier  
Rizqi Fitri NARYANTO<sup>a,c\*</sup>, Hiroshi ENOMOTO<sup>a</sup>, Noburu HIEDA<sup>a</sup>, Yoshikazu TERAOKA<sup>a</sup>, Chuntima CHUNTI<sup>b</sup>, Reiji NODA<sup>b</sup>  
(<sup>a</sup> Mechanical Science and Engineering, Kanazawa University, Japan, <sup>b</sup> Environmental and Chemical Engineering Graduate School of Science and Technology, Gunma University, Japan, <sup>c</sup> Departement of Mechanical Engineering, Semarang State University, Indonesia)

- 11:45 OB4 Gasification Characteristics of Sewage Sludge in Water Under Subcritical Conditions  
Aqip AMRULLAH\*, Yukihiko MATSUMURA  
(Hiroshima University, Japan)

*(Lunch 12:00-13:00)*

*(Poster presentation 13:00-14:00)*

#### Session OC Solid products

**Chair: Dr. Haruhiro Fujita (Bogor Aglicultrural University, Indonesia / Niigata University of International and Information Studies, Japan)**

- 14:10 OC1 Extraction of Lignin from Oil Palm Empty Fruit Bunch Using Subcritical Fluid Technology as Precursor Material for Carbon Fibre Production  
Vijayaletchumy KARUNAKARAN\*, Sharifah Sopliah ABDULLAH, Tau Len-Kelly YONG  
(Universiti Kuala Lumpur, Malaysian Institute of Chemical and Bioengineering Technology (UniKL MICET), Malaysia)

- 14:25 OC2 Production Test of Torrefied Woody Biomass Solid Fuel in an Original Small Scale Plant -(2) Continuous Operation of The Plant  
Takahiro YOSHIDA<sup>a\*</sup>, Yoshitaka KUBOJIMA<sup>a</sup>, Daisuke KAMIKAWA<sup>a</sup>, Makoto KIGUCHI<sup>b</sup>, Kojiro TANAKA<sup>c</sup>, Megumi MIYAGO<sup>c</sup>, Megumi MASUI<sup>c</sup>, Yoshifumi OHYABU<sup>d</sup>, Akio KOBAYASHI<sup>d</sup>, Hironori IGARASHI<sup>d</sup>  
(<sup>a</sup> Forestry and Forest Products Research Institute, Japan, <sup>b</sup> Nihon University, Japan, <sup>c</sup> Actree Corporation, Japan, <sup>d</sup> Sanyo Trading Co. Ltd., Japan)

- 14:40 OC3 Optimization Particle Size, Reaction Time and Moisture Content of Oil Palm Empty Fruit Bunch by Ozonolysis Pretreatment  
Efri MARDAWATI\*, Herlin HERLIANSAH, Edy SURYADI, In In HANIDAH, Imas Siti SETIASIH  
(Padjadjaran University, Indonesia)

- 14:55 OC4 Characterization of Nano Fibrillated Cellulose from Empty Fruit Bunch and Its Potential for Surfactant Surface Modification to Improve PLA Composite Properties  
Dwi Yuni HASTATI\*, Erliza HAMBALI, Khaswar SYAMSU, Endang WARSIKI  
(Agroindustrial Technology, Bogor Agricultural University (IPB), Indonesia)

- 15:10 **Ceremony for Best Paper Award**

*(Break 15:20-15:30)*

#### Session OD Liquid fuels

**Chair: Dr. Erliza Hambali (Bogor Aglicultrural University, Indonesia)**

- 15:30 OD1 Pretreatment of Heavy Tar and Plastic Mixture for Liquid Fuel Production  
Chuntima CHUNTI\*, Reiji NODA  
(Gunma University, Japan)

- 15:45 OD2 Overall Transesterification Rate of Oil in Methanol-Oil Two-Phase System: a Stagnant Diffusion Model  
Yoshimitsu UEMURA<sup>a\*</sup>, Keishi NAGAO<sup>b</sup>, Fon Yee HAN<sup>a</sup>, Thanh Tien NGUYEN<sup>a</sup>, Thanh Hoai TRINH<sup>a</sup>, Katsuki KUSAKABE<sup>b</sup>  
(<sup>a</sup> Universiti Teknologi Petronas, Malaysia, <sup>b</sup> Sojo University, Japan)

- 16:00 OD3 Thermochemical Conversion of Native Microalgae Biomass into Biocrude by Continuous Hydrothermal Liquefaction Process  
Ankit JAIN<sup>a\*</sup>, Satoshi MATSUMOTO<sup>a</sup>, Toru ARAMAKI<sup>a</sup>, Takumi GOHARA<sup>a</sup>, Junko ITO<sup>b</sup>, Ryozo NOGUCHI<sup>a,b</sup>, Makoto M. WATANABE<sup>a,b</sup>, Mitsutoshi NAKAJIMA<sup>a,b</sup>, Sosaku ICHIKAWA<sup>a,b</sup>  
(<sup>a</sup> Faculty of Life and Environmental Sciences, University of Tsukuba, Japan, <sup>b</sup> Algae Biomass and Energy System R&D Center, University of Tsukuba, Japan)
- 16:15 OD4 The Characteristics of Bio Oil Hydrothermal Pyrolysis of Oil Palm Empty Fruit Bunches Based on Size of Powder and Pressure of Hydrogen Gas  
Rina Novia YANTI<sup>a,b\*</sup>, Erliza HAMBALI<sup>c,d</sup>, Gustan PARI<sup>e</sup>, Ani SURYANI<sup>c,d</sup>  
(<sup>a</sup> PhD Student Department of Natural Resource and Environmental Management Study Program, Bogor Agricultural University (IPB), Indonesia, <sup>b</sup> Forestry of Faculty, Lembang Kuning of University Indonesia, Indonesia, <sup>c</sup> Department of Agricultural Industry Technology, Bogor Agricultural University (IPB), Indonesia, <sup>d</sup> Surfactant and Bioenergy Research Center, Bogor Agricultural University (IPB), Bogor Indonesia, <sup>e</sup> Center for Research and Development on Forestry Engineering and Forest Product Processing, Indonesia)

*(Break 16:30-16:40)*

**Session OE Chemical production and assessment**  
**Chair: Dr. Akihiro Hiden (Ehime University, Japan)**

- 16:40 OE1 Cost and GHG Emissions Reduction Analysis of Fishermen's Ice Maker Development in Karimunjawa Using PV and Biobased Diesel Engine as Energy Supply  
Mukhlis ALI<sup>\*</sup>, Yuli Setyo INDARTONO, Harry Setyo WIBOWO  
(Faculty of Mechanical and Aerospace Engineering, Bandung Institute of Technology, Indonesia)
- 16:55 OE2 Genome Analysis of *Herbivorax saccincola* A7, a Cellulolytic-Xylanolytic Thermophilic Anaerobe  
Shimpei AIKAWA<sup>a\*</sup>, Sirilak BARAMEE<sup>b</sup>, Junjarus SERMSATHANASWADI<sup>c</sup>, Phakhinee THIANHENG<sup>b</sup>, Chakrit TACHAAPAUKOON<sup>b</sup>, Ayumi SHIKATA<sup>d</sup>, Rattiya WAEONUKUL<sup>b</sup>, Patthra PASON<sup>b</sup>, Khanok RATANAKHANOKCHAI<sup>b</sup>, Akihiko KOSUGI<sup>a</sup>  
(<sup>a</sup> Japan International Research Center for Agricultural Sciences (JIRCAS), Japan, <sup>b</sup> King Mongkut's University of Technology Thonburi (KMUTT), Thailand, <sup>c</sup> Suan Dusit University, Thailand, <sup>d</sup> University of Tsukuba, Japan)
- 17:10 OE3 Economic Analysis of 2nd Generation Biofuel Production Process from Oil Palm Empty Fruit Bunches  
Obie FAROBIE<sup>a\*</sup>, Erliza HAMBALI<sup>a</sup>, Mira RIVAI<sup>a</sup>, Nindiyo CAROKO<sup>b</sup>, Septhian MARNO<sup>b</sup>, Ari Imam SUTANTO<sup>a</sup>  
(<sup>a</sup> Surfactant and Bioenergy Research Center, Bogor Agricultural University (IPB), Indonesia, <sup>b</sup> Pertamina RTC, Indonesia)
- 17:25 OE4 Greenhouse Gas Emission of an Electricity Generation Use and a Field Abandonment of Empty Fruit Bunch at a Palm Oil Mill, Surat Thani Province, Thailand  
Haruhiro FUJITA<sup>a\*</sup>, Katsuyuki NAKANO<sup>b</sup>, Taweep CHAISOMPLOB<sup>c</sup>, Erliza HAMBALI<sup>a</sup>  
(<sup>a</sup> Surfactant & Bioenergy Research Center, Bogor Agricultural University (IPB), Indonesia, <sup>b</sup> College of Policy Science, Ritsumeikan University, Japan, <sup>c</sup> School of International Institute of Technology, Thammasat University, Thailand)

17:40 **Commemorative photo and Closing**

18:00 **Reception(Banquette) with oral & poster award announcement**

## Poster presentation 13:00-14:00

## PA-Biomass resource and pretreatment

- PA1 Prediction of Microalgae Total Solid Concentration by Using Image Pattern Technique  
Haikal Nando WINATA<sup>a\*</sup>, Ryozo NOGUCHI<sup>b</sup>, Muhammad Ansori NASUTION<sup>a</sup>  
(<sup>a</sup> Graduate School, Life and Environmental Sciences, University of Tsukuba, Japan, <sup>b</sup> Faculty of Life and Environmental Sciences, University of Tsukuba, Japan)
- PA2 Properties of Pulverization of Rice Flour Using Vibrating Mill with Ring Media  
Rei SATO<sup>a\*</sup>, Takehiko TAKAHASHI<sup>b</sup>, Katsuki YOKOO<sup>b</sup>, Yukio ENDA<sup>c</sup>, Fumihiko SUGAWARA<sup>d</sup>  
(<sup>a</sup> Graduate School of Systems Science and Technology, Akita Prefectural University, Japan,<sup>b</sup> Akita Prefectural University, Japan, <sup>c</sup> Akita Industrial Technology Center, Japan, <sup>d</sup> Nihon Seiki Co., Ltd., Japan)
- PA3 Characteristic Analysis of Japanese Cedar Powder from Vibration Mill with Ring Media Pulverization by Solid State NMR  
Yuma HATAKEYAMA<sup>a\*</sup>, Takehiko TAKAHASHI<sup>b</sup>  
(<sup>a</sup> Graduate School of Systems Science and Technology, Akita Prefectural University, Japan, <sup>b</sup> Akita Prefectural University, Japan)
- PA4 Profitability Improvement Effect of a Lumber Company Establishing a Biomass Power Generation Business  
Hirotaka KOMATA<sup>a\*</sup>, Yoshio ISHIKAWA<sup>a</sup>, Hirofumi KUBOYAMA<sup>b</sup>  
(<sup>a</sup> Hokkaido Research Organization, Japan, <sup>b</sup> Forestry and Forest Products Research Institute, Japan)
- PA5 Effect of Ring and Rod Media Combination for Continuous Pulverization by Tandem Ring Mill  
Takehiko TAKAHASHI<sup>\*</sup>  
(Akita Prefectural University, Japan)
- PA6 Substrate Specificity and Kinetic Analysis of Beta-Xylosidase from the basidiomycete *Phanerochaete chrysosporium*  
Keisuke KOJIMA<sup>\*</sup>, Naoki SUNAGAWA, Kiyohiko IGARASHI, Masahiro SAMEJIMA  
(The University of Tokyo, Japan),
- PA7 Economic Value of Wood Processing Mill Residues as Feedstock for Bioenergy in Indonesia  
Bintang Charles Hamonangan SIMANGUNSONG<sup>a\*</sup>, Ganesha Samuel Janual SILALAH<sup>a</sup>, Muhamad Dida Gusti MAULANA<sup>a</sup>, Vera Junita SITANGGANG<sup>a</sup>, Elisa Ganda Togu MANURUNG<sup>a</sup>, Elias ELIAS<sup>b</sup>, Armansyah Halomoan TAMBUNAN<sup>c</sup>  
(<sup>a</sup> Department of Forest Products, Faculty of Forestry, Bogor Agricultural University (IPB), Indonesia, <sup>b</sup> Department of Forest Management, Faculty of Forestry, Bogor Agricultural University (IPB), Indonesia, <sup>c</sup> Department of Mechanical and Bio-System Engineering, Faculty of Agricultural Engineering and Technology, Bogor Agricultural University (IPB), Indonesia)
- PA8 Economic Value of Fresh Fruit Bunch from Oil Palm Plantation as Feedstock for Bioenergy in Indonesia  
Bintang Charles Hamonangan SIMANGUNSONG<sup>a\*</sup>, FIDELA<sup>b</sup>, Vera Junita SITANGGANG<sup>a</sup>, Elisa Ganda Togu MANURUNG<sup>a</sup>, Armansyah Halomoan TAMBUNAN<sup>b</sup>  
(<sup>a</sup> Department of Forest Products, Faculty of Forestry, Bogor Agricultural University (IPB), Indonesia, <sup>b</sup> Department of Mechanical and Bio-System Engineering, Faculty of Agricultural Engineering and Technology, Bogor Agricultural University (IPB), Indonesia)
- PA9 Significance of Tropical Wood Resources in Indonesia Related to the Sustainable Development Goals Beyond 2030  
Koichi YAMAMOTO<sup>a,b\*</sup>, Takahiro YOSHIDA<sup>a</sup>  
(<sup>a</sup> Forestry and Forest Products Research Institute, Japan, <sup>b</sup> Japan Wood Protection Association, Institute of Asia, Japan)

- PA10 Cheese Whey as Potential Biomass for Antimicrobial Biofilm Production as Active Packaging: A Review  
Isfari DINIKA<sup>a\*</sup>, Gemilang Lara UTAMA<sup>a,b</sup>  
(<sup>a</sup> Food Technology, Faculty of Agricultural Industrial Technology, Padjadjaran University, Indonesia, <sup>b</sup> Center for Environment and Sustainability Science, Padjadjaran University, Indonesia)
- PA11 Transportation Model of Biomass as Biofuel Second Generation Feedstock in Indonesia  
Hendri WIJAYA\*, Erliza HAMBALI, Yandra ARKEMAN  
(Bogor Agricultural University (IPB), Indonesia)
- PA12 Effect of Organosolv Pretreatment on Enzymatic Hydrolysis Product and Delignification for Bioethanol Feedstock from Oil Palm Empty Fruit Bunch (OPEFB)  
Efri MARDAWATI<sup>a\*</sup>, Ibad BADRUZAMAN<sup>a</sup>, Sarifah NURJANAH<sup>b</sup>, Yazid BINDAR<sup>c</sup>  
(<sup>a</sup> Departement of Agroindustrial Technology, Padjadjaran University, Indonesia, <sup>b</sup> Departement of Agricultural Engineering, Padjadjaran University, Indonesia, <sup>c</sup> Departement of Chemical Engineering, Bandung Institute of Technology, Indonesia)
- PA13 Optimising Sterilization Process on Vertical Sterilizer in Palm Oil Mill  
Dennie POHAN\*, Herri SUSANTO  
(Bandung Institute of Technology, Indonesia)

#### **PB-Gasification, combustion, and sub- and super-critical**

- PB1 An Exergy Analysis of Hydrogen Production Process in Consideration of LCA  
Eiki TAKEMURA<sup>a\*</sup>, Mitsuo KAMEYAMA<sup>b</sup>, Hisashi KAMIUCHI<sup>b</sup>, Yuna SEO<sup>a</sup>, Kiyoshi DOWAKI<sup>a</sup>  
(<sup>a</sup> Department of Industrial Administration, Graduate School of Science and Technology, Tokyo University of Science, Japan, <sup>b</sup> Japan Blue Energy Co., Ltd., Japan)
- PB2 Baseline Study of Green House Gases (GHGs) Emission from Stored Digested Slurry After Separation of Biogas Plant for Dairy Slurry in Spring Snowmelt Period  
Yoshiaki KIMURA<sup>a\*</sup>, Seiichi YASUI<sup>b</sup>, Hiroki KATO<sup>a</sup>, Kazuma OZAKI<sup>b</sup>, Kunihiko YOSHIDA<sup>a</sup>, Kouta ISHII<sup>a</sup>, Tsutomu KAZIYAMA<sup>a</sup>, Kazato OOISHI<sup>c</sup>, Takashi OSADA<sup>d</sup>  
(<sup>a</sup> Hokkaido Research Organization, Japan, <sup>b</sup> Air Water Inc, Japan, <sup>c</sup> Kyoto University, Japan, <sup>d</sup> National Agriculture and Food Research Organization, Japan)
- PB3 Characteristics of Agricultural Waste on Small-Scale Downdraft Gasification Systems  
Syukri Muhammad NUR\*, Erkata YANDRI, Tanda Akhesta SUNU, Jumino, Aep Saipul UYUN, Kamaruddin ABDULLAH  
(Study Program of Renewable Energy, Darma Persada University, Indonesia)
- PB4 Stand-Alone System of Pyrolysis Stove for Producing Biochar, Thermal Energy, and Power Generation  
Dwi SETIAWAN<sup>a\*</sup>, Johanis R. PANGALA<sup>b</sup>, I Dewa Made SUBRATA<sup>a</sup>, Yohanes Aris PURWANTO<sup>a</sup>, Armansyah Halomoan TAMBUNAN<sup>a</sup>  
(<sup>a</sup> Department of Mechanical and Biosystem Engineering, Bogor Agricultural University (IPB), Indonesia, <sup>b</sup> Study Program of Natural Resources and Environmental Management, Bogor Agricultural University (IPB), Indonesia)
- PB5 Co-Gasification of Oil Palm Frond and Polypropylene Blends: Effect of Plastic Blend Percentage  
Mohd Hafif BASHA\*, Shaharin Anwar SULAIMAN, Yoshimitsu UEMURA  
(Universiti Teknologi Petronas, Malaysia)
- PB6 Selection of Biomass Cookstove Using Analytic Hierarchy Process  
Agah D. GARNADI<sup>a\*</sup>, Irzaman<sup>a</sup>, Dominicus Savio PRIYARSONO<sup>a</sup>, Hanni GARMINIA<sup>b</sup>, Pudji Astuti WALUYO<sup>b</sup>  
(<sup>a</sup> Bogor Agricultural University (IPB), Indonesia, <sup>b</sup> Bandung Institute of Technology, Indonesia)

- PB7 Study on the Effect of Reaction Temperature, Time and Solid Loading Towards Lignin from Oil Palm Frond (OPF) Under Subcritical Phenol Conditions as Precursor for Carbon Fiber Production  
Khalidatul Athirah KHALID\*, Asimi Ana AHMAD, Tau Len-Kelly YONG  
(Universiti Kuala Lumpur, Malaysian Institute of Chemical and Bioengineering Technology (UniKL MICET), Malaysia)
- PB8 Effect of Liquid Phase Product on Enzymatic Hydrolysis for Hydrothermal Pulverization Using Disk Mill  
Hiroki YOKOYAMA\*, Yukihiko MATSUMURA  
(Hiroshima University, Japan)
- PB9 Reaction Model of Glyceraldehyde Decomposition in Hot Compressed Water  
Rahmat Iman MAINIL\*, Nattacha PAKSUNG, Yukihiko MATSUMURA  
(Hiroshima University, Japan)
- PB10 Cancelled
- PB11 Development of Biogas Supply Control System to Gas Engine  
Nugroho Adi SASONGKO<sup>a\*</sup>, Anton RAHMAWAN<sup>b</sup>, Arga FEBRIANTONI<sup>b</sup>  
(<sup>a</sup> Center for Assessment of Process and Energy Industries, Agency for the Assesment and Implementation of Technology (BPPT), Indonesia, <sup>b</sup> Center for Energy Conversion Technology, Agency for the Assesment and Implementation of Technology (BPPT), Indonesia)

#### PC-Solid and liquid fuel

- PC1 An LCA Approach on Eco-Friendly Bioethanol Production Paths  
Chiharu MISAKI\*, Yuna SEO, Kiyoshi DOWAKI  
(Tokyo University of Science, Japan)
- PC2 A Pilot Plant Scaled 2nd Generation Bio-Ethanol Production from Waste Mushroom Beds in Japan  
Kouji YOSHIDA<sup>a\*</sup>, Yosuke KOBAYASHI<sup>a</sup>, Hiroto NISHIJIMA<sup>a</sup>, Naohisa SUGIMOTO<sup>a</sup>, Fuminori IMAI<sup>b</sup>, Masatoshi KANEMATSU<sup>b</sup>, Kenji YAMADA<sup>b</sup>, Susumu ARAI<sup>b</sup>, Kiyotaka SAGA<sup>a</sup>, Yoshiya IZUMI<sup>a</sup>  
(<sup>a</sup> Biomaterial in Tokyo Co., Ltd, Japan, <sup>b</sup> Sanyu Plant Service Co., Ltd, Japan)
- PC3 Cancelled
- PC4 Effects of Substrate Concentration on Bioethanol Production from Oil Palm Empty Fruit Bunches with Simultaneous Saccharification and Fermentation (SSF)  
Efri MARDAWATI<sup>a</sup>, Allyza Vianti PUTRI<sup>a\*</sup>, Sarifah NURJANAH<sup>a</sup>, In-in HANIDAH<sup>a</sup>, Tri YULIANA<sup>a</sup>, Yazid BINDAR<sup>b</sup>  
(<sup>a</sup> Padjadjaran University, Indonesia, <sup>b</sup> Bandung Institute of Technology, Indonesia)
- PC5 Potential Catalyst Reduction by Enhancement of Mixing Using Static Mixing Reactor for Biodiesel Production  
Armansyah Halomoan TAMBUNAN\*, Ni Putu Dian NITAMIWATI, Lilik P. E. NUGROHO  
(Department of Mechanical and Biosystem Engineering, Bogor Agricultural University (IPB), Indonesia)
- PC6 Temperature and Reaction Time for Synthesis of Refined Palm Oil Bioavtur  
Dwi SETYANINGSIH<sup>a\*</sup>, Erliza HAMBALI<sup>a</sup>, Neli MUNA<sup>a</sup>, Shinta PERMATASARI<sup>b</sup>  
(<sup>a</sup> Surfactant and Bioenergy Research Center, Bogor Agricultural University (IPB), Indonesia, <sup>b</sup> Department of Agroindustrial Technology, Bogor Agricultural University (IPB), Indonesia)
- PC7 The Microbiological Potential of Banana (*Musa spp.*) Waste in Ethanol Production  
Gemilang Lara UTAMA\*, Dwi Wahyudha WIRA, Roostita Lobo BALIA  
(Padjadjaran University, Indonesia)
- PC8 Milligram Scale Torrefaction of Rubber Tree  
Yuto NODA<sup>a\*</sup>, Hiroshi NONAKA<sup>b</sup>  
(<sup>a</sup> Faculty of Bioresources, Mie University, Japan, <sup>b</sup> Graduate School of Bioresources, Mie University, Japan)

- PC9 Productivities and Fatty Acid Compositions of Microalgae Diatoms *Skeletonema costatum*, *Thalassiosira sp.* and *Chaetoceros gracilis* in Indoor and Outdoor Cultivation Systems for Biofuel Development  
Mujizat KAWAROE<sup>a,\*</sup>, Tri PRARTONO<sup>b</sup>, Adriani SUNUDDIN<sup>b</sup>, Yoga TRISWANTO<sup>b</sup>, Vicky Rizky A. KATILI<sup>b</sup>, La Ode Abdul Fajar HASIDU<sup>b</sup>, Eko Agus SUYONO<sup>c</sup>, Ganjar SAEFURAHMAN<sup>a</sup>  
(<sup>a</sup> Surfactant and Bioenergy Research Center (SBRC), Bogor Agricultural University (IPB), Indonesia, <sup>b</sup> Department of Marine Science and Technology, Faculty of Fisheries and Marine Sciences, Bogor Agricultural University (IPB), Indonesia, <sup>c</sup> Faculty of Biology, Gadjah Mada University, Indonesia)

#### PD-Chemical and others

- PD1 Improving Sustainability of Coconut in Parigi, Indonesia Using Life Cycle Assessment (LCA) Approach  
Nia DESIANA<sup>a,b,\*</sup>, Kiyoshi DOWAKI<sup>a</sup>, Mustika Sufiati PURWANEGARA<sup>b</sup>  
(<sup>a</sup> Department of Industrial Administration, Tokyo University of Science, Japan, <sup>b</sup> School of Business and Management, Bandung Institute of Technology, Indonesia)
- PD2 Web-Based Simulation for Microalgae Production in Open Raceway Pond  
SUPRIYANTO<sup>a,\*</sup>, Ryozo NOGUCHI<sup>a</sup>, Tofael AHAMED<sup>a</sup>, Devitra Saka RANI<sup>a</sup>, Dhani S. WIBAWA<sup>a</sup>, Muhammad Ansori NASUTION<sup>a</sup>, Mikihide DEMURA<sup>b</sup>, Makoto M. WATANABE<sup>b</sup>  
(<sup>a</sup> Faculty of Life and Environmental Sciences, University of Tsukuba, Japan, <sup>b</sup> Algae Biomass and Energy System R&D Center, University of Tsukuba, Japan)
- PD3 Material Heat Balance Analysis of Wet Wood Bark Biomass Heat Supply System for Mushroom Production Farmhouse  
Sota ARAI<sup>a,\*</sup>, Takashi AMEMIYA<sup>a</sup>, Tsuyoshi NOMA<sup>b</sup>  
(<sup>a</sup> Nippon Institute of Technology, Japan, <sup>b</sup> Toshiba Infrastructure Systems and Solutions Corp., Japan)
- PD4 Catalytic Activity of Intercalated Montmorillonite Clay for Glycerol Conversion to Oligomers via Microwave Irradiation  
Muhammad SAJID<sup>\*</sup>, Muhammad AYOUB, Yoshimitsu UEMURA, Suzana YUSUP, Bawadi B ABDULLAH, Aqsha AQSHA  
(Universiti Teknologi Petronas, Malaysia)
- PD5 Effect of Light Duration and Wavelength on Electricity Generation of a Microbial Fuel Cell (MFC) Using Activated Sludge  
Thanh Hoai TRINH<sup>\*</sup>, Yoshimitsu UEMURA, Nga T. T. TRAN  
(Universiti Teknologi Petronas, Malaysia)
- PD6 Water-Based Mud Formulation of Purified Palm Oil's Glycerol  
Junicardo Frencius RAJAGUKGUK<sup>a,\*</sup>, Erliza HAMBALI<sup>b</sup>, Dwi SETYANINGSIH<sup>c</sup>, Bonar Tua Halomoan MARBUN<sup>d</sup>  
(<sup>a,\*</sup> Graduate Student Master of Science, Agroindustrial Technology, Bogor Agricultural University (IPB), Indonesia, <sup>b</sup> Lecturer of Agroindustrial Technology Department, Bogor Agricultural University (IPB), Indonesia, <sup>c</sup> Surfactant and Bioenergy Research Center, Bogor Agricultural University (IPB), Indonesia, <sup>d</sup> Lecturer of Petroleum Engineering Department, Bandung Institute of Technology, Indonesia)
- PD7 Formulation of Foaming Agent Using Saponification Product of Palm Oil Fatty Acid and Its Performance Tests on Peatland Fires  
Purwo SUBEKTI<sup>a,b,\*</sup>, Erliza HAMBALI<sup>c,d</sup>, Ani SURYANI<sup>c,d</sup>, Prayoga SURYADARMA<sup>c</sup>, Bambang Hero SAHARJO<sup>e</sup>, Mira RIVAI<sup>d</sup>  
(<sup>a</sup> Program Study of Mechanical Engineering, Pasir Pengaraian University, Indonesia, <sup>b</sup> Program Study Agroindustrial Technology, Bogor Agricultural University (IPB), Indonesia, <sup>c</sup> Department of Agroindustrial Technology, Faculty of Agricultural Technology, Bogor Agricultural University (IPB), Indonesia, <sup>d</sup> Surfactant and Bioenergy Research Center, Bogor Agricultural University (IPB), Indonesia, <sup>e</sup> Forest Fire Laboratory, Division of Forest Protection, Department of Silviculture, Faculty of Forestry, Bogor Agricultural University (IPB), Indonesia)

- PD8 Utilization of Cassava Peels (*Manihot utilissima pohl*) as Raw Materials for Producing 5-Hydroxymethylfurfural through Dehydration Reaction Using Deep Eutectic Solvents  
Renita MANURUNG\*, Oktavianna WINDA, Herianto SILALAH  
(University of Sumatera Utara, Indonesia)
- PD9 Production of 5-Hydroxylmethylfurfural from Strach of Durian Seed (*Durio Zibhetinus*) Through Dehydration Reaction Using Co-Solvent Based Choline Chloride : Glycerol  
Renita MANURUNG\*, Iskandar ZULKARNAIN, Muhammad TAUFIK  
(University of Sumatera Utara, Indonesia)
- PD10 Performances of Methyl Ester Sulfonate Acid (MESA) and Sodium Methyl Ester Sulfonate (S-MES) to Increase Crude Oil Production in Oil Wells with High Asphaltene Contents  
Rista FITRIA<sup>a\*</sup>, Erliza HAMBALI<sup>a</sup>, Mira RIVAI<sup>a</sup>, Ari Imam SUTANTO<sup>a</sup>, Agatha Maria GADI<sup>a</sup>, Pudji PERMADI<sup>b</sup>, Felga Zulfia RASDIANA<sup>c</sup>  
(<sup>a</sup> Surfactant and Bioenergy Research Center, Bogor Agricultural University (IPB), Indonesia, <sup>b</sup> Study Program of Petroleum Engineering, Bandung Institute of Technology, Indonesia, <sup>c</sup> Department of Agroindustrial Technology, Bogor Agricultural University (IPB), Indonesia)
- PD11 Characterization of Nanofibers from Japanese Orange Inner Peels Prepared Using Pectinase and Diluted Alkali  
Akihiro HIDENO<sup>a\*</sup>, Kentaro ABE<sup>b</sup>, Hiroyuki YANO<sup>b</sup>, Hiromi UCHIMURA<sup>a</sup>  
(<sup>a</sup> Paper Industry Innovation Center, Ehime University, Japan, <sup>b</sup> Research Institute for Sustainable Humanosphere, Kyoto University, Japan)
- PD12 Esterification of OPEFB-Derived Cellulose and Mixed Esters by Deep Eutectic Solvent Assisted Amberlyst BD20 Catalyst  
Tjahjono HERAWAN<sup>a\*</sup>, Meta RIVANI<sup>a</sup>, Shinya YAMANAKA<sup>b</sup>, Frisda Rimbun PANJAITAN<sup>a</sup>  
(<sup>a</sup> Indonesian Oil Palm Research Institute, Indonesia, <sup>b</sup> College of Environmental Technology, Muroran Institute of Technology, Japan)
- PD13 Infiltrated Water and Runoff at Four Gradient Slopes at People's Oil Palm Plantation in Dry Season in Jambi, Indonesia  
Herdhata AGUSTA<sup>a\*</sup>, HENDRAYONTO<sup>a</sup>, Muhamad T. SUNDARYANTO<sup>a</sup>, Ambar M. DEWI<sup>a</sup>, Dirk HOELSCHER<sup>b</sup>  
(<sup>a</sup> Faculty of Agriculture/SBRC, Bogor Agricultural University (IPB), Indonesia, <sup>b</sup> Tropical Silviculture and Forest Ecology, Georg-August-Universität Göttingen, Germany)

### For Oral presenters,

Each presentation is 15 min including discussion.

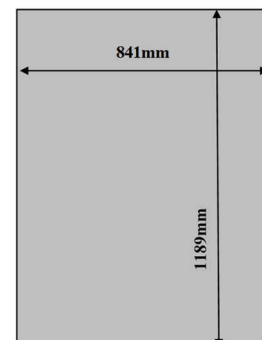
Please present in 11 min, followed by 3 min discussion and leaving 1 min for speaker change.  
1st bell rings: 9 min, 2nd bell rings: 11 min (to finish presentation), 3rd bell rings: 14 min (end of presentation) .

It is strongly recommended to connect your own computer to the projector in the break.

Please bring your PowerPoint file in USB memory in case projection goes wrong.

### For Poster presenters,

Official poster size is A0 (841mm X 1189mm)





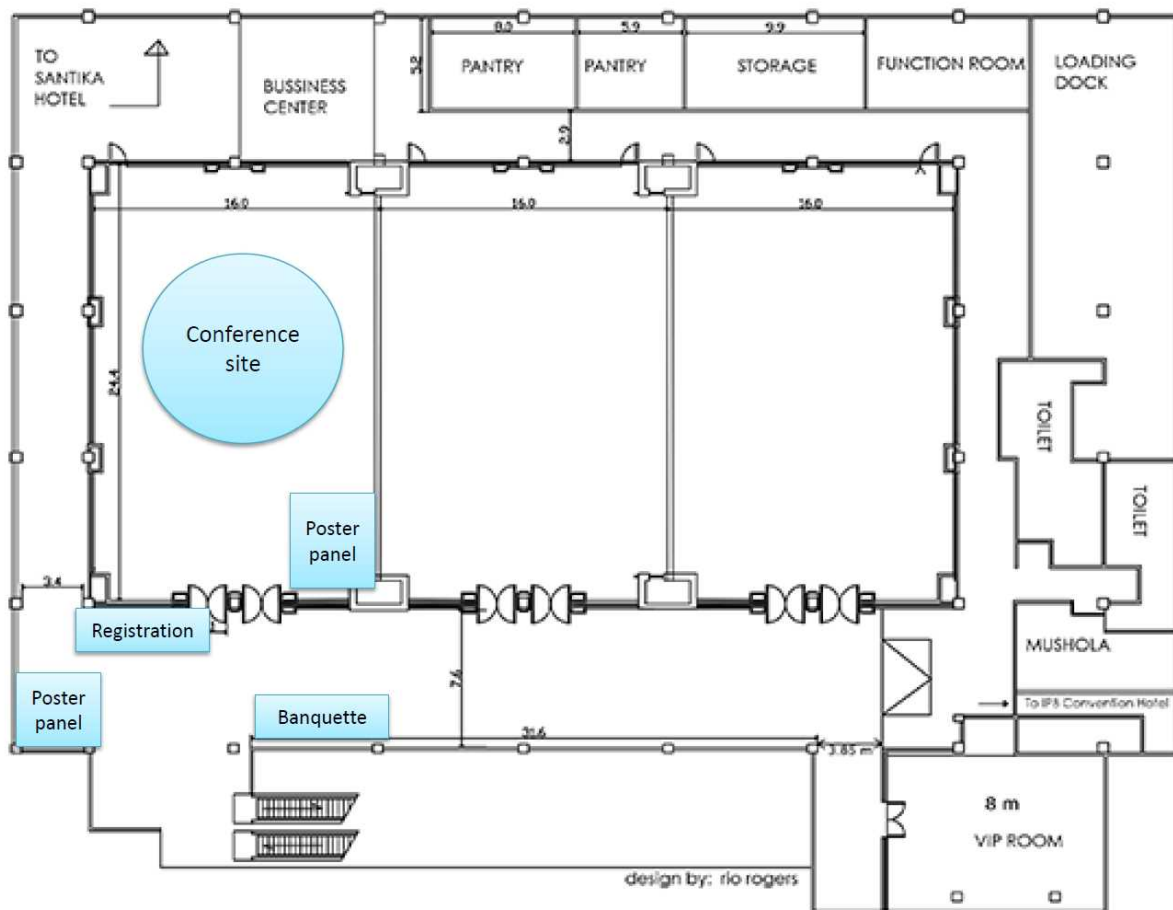
## Venue information

IPB International Convention Center at Botani Square (IPB Convention Hotel)

Location: Botani Square Building JL.Raya Padjajaran – Bogor, Indonesia

<https://www.ipbconventionhotel.com/>

<https://www.google.com/maps/place/IPB+International+Convention+Center/@-6.5978975,106.8012912,15.75z/data=!4m5!3m4!1s0x0:0x383b5bc73b307ee8!8m2!3d-6.6013565!4d106.8073886?hl=en>



1st Floor