

Plenary and Oral Session Program

Notes

OS = Organized Session

[A1-1], [P1-1], etc.: Paper IDs in the USB Proceedings

[E]: Contained in the E-book Proceedings published after the conference

Wednesday, December 2, 2015

8:45-9:30	Registration
9:30-10:15	Opening (Hall D7)
10:15-11:00	<p>Plenary keynote 1 (Hall D7) Hugo Schally Head of Unit, Directorate General “Environment”, “Eco-innovation and circular economy” at European Commission EU Policy Development on Eco-innovation and Circular Economy</p>
11:00-11:45	<p>Plenary keynote 2 (Hall D7) Rolf Steinhilper, PhD Full Professor for Manufacturing and Remanufacturing Technology, Fraunhofer Group Leader, University of Bayreuth, Germany Technology Trends and Challenges of Remanufacturing</p>
12:00-13:00	Lunch (Lunch box is available at D7)

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Wednesday, December 2, 2015

	Room A (G402)	Room B (G403)	Room C (G404)	Room D (G405)	Room E (G407)
	[A1] (OS) Organizational LCA Chairs: Matthias Finkbeiner (Technical University Berlin, DE) & Atsushi Inaba (Kogakuin University, JP)	[B1] Eco-innovation support method Chair: Stephan Benecke (Fraunhofer IZM, DE)	[C1] Ecodesign method and tools (1) Chair: Kunmo Lee (Ajou University, KR)	[D1] Critical resource and urban mining Chair: Nils Nissen (Fraunhofer IZM, DE)	[E1] (OS) Low carbon society Chair: Takashi Iwamoto (Keio University, JP)
13:00-14:20	[A1-1] [Keynote] Guidance on Organizational Life Cycle Assessment Julia Martinez-Blanco ^{1,2} , Atsushi Inaba ³ , Llorenç Mila-i-Canals ⁴ , Matthias Finkbeiner ¹ (1. Technische Universität Berlin, DE; 2. Inedit Innovacio SL, ES; 3. Kogakuin University, JP; 4. UNEP-SETAC Life Cycle Initiative, FR)	[B1-1] [E] State of the Art of Open Innovation and Design for Sustainability Ursula Tischner ¹ , Lea Beste ² (1. Agency for Sustainable Design, DE; 2. Cologne Business School, DE)	[C1-1] [E] Reducing conflicts of interest in Eco-Design – the relation of innovation management and Eco-Design in the automotive sector Therese Elisabeth Schwarz, Kerstin Schopf, Astrid Arnberger (Montanuniversitaet Leoben, AT)	[D1-1] [E] Strategy Planning Before Urban Mining: Exploring the Targets Hiroki Hatayama, Kiyotaka Tahara (AIST, JP)	[E1-1] [Keynote] A Study on the approach to the Smart Community ~Through renewable energy projects in Saitama Prefecture~ Hiroshi Onoda (Waseda University, JP)
	[A1-2] Japanese Activities on Organizational LCA Atsushi Inaba ¹ , Matthias Finkbeiner ² (1. Kogakuin University, JP; 2. Technische Universität Berlin, DE)	[B1-2] Device Analysis Model in Computer-aided Innovation Software for Ecoinnovation of the Atmospheric Plasma Etching System Jahau Lewis Chen ¹ , Feng-Hung Yang ¹ , Jui-Mei Hsu ² , Chai-Chiang Chang ² (1. National Cheng Kung University, TW; 2. ITRI, TW)	[C1-2] [E] Computer-Aided Design for Semi-Destructive Disassembly Shinichi Fukushige ¹ , Yumi Shiraishi ¹ , Yasushi Umeda ² (1. Osaka University, JP; 2. The University of Tokyo, JP)	[D1-2] Structure of conditions for recycling from urban mine Ichiro Daigo, Nobuo Sekine, Yoshikazu Goto (The University of Tokyo, JP)	[E1-2] Impact of Extreme Technologies on Low-Carbon Society Hidetaka Aoki ¹ , Takashi Iwamoto ² (1. Global Brain Corporation, JP; 2. Keio University, JP)
	[A1-3] Social Organizational LCA (SOLCA) Julia Martinez-Blanco ^{1,2} , Annekatrin Lehmann ¹ , Ya-Ju Chang ¹ , Matthias Finkbeiner ¹ (1. Technische Universität Berlin, DE; 2. UAB Research Park, IRTA, ES)	[B1-3] [E] User model in the life cycle simulation of mechanical parts based on Prospect theory Yumihito Yokoki, Yuki Yamamori, Hiroyuki Hiraoka (Chuo University, JP)	[C1-3] Usability demonstration of the G.EN.ESI eco-design platform: the fridge case study Marco Mandolini, Marco Mengarelli, Michele Germani, Marco Marconi (Università Politecnica delle Marche, IT)	[D1-3] Current Issues on Lighting Industry and System Junbeum Kim ¹ , David Chung ² (1. University of Technology of Troyes, FR; 2. Environmental Research Complex, KR)	[E1-3] [E] Estimation of reduction in CO₂ emissions by using ICT throughout Japan Tomomi Nagao, Minako Hara, Shinsuke Hanneo, Jiro Nakamura (NTT Corporation, JP)
	Discussion	[B1-4] Deriving Heuristic EcoDesign Guidelines for the Development of Components Julian Sarnes, Hermann Kloberdanz (Technical University Darmstadt, DE)	[C1-4] A Methodology to Identify and Analyze Key Factors in Eco-design Seong-Rin Lim (Kangwon National University, KR)	[D1-4] Linear programming approach to design competitive urban mines Shinsuke Kondoh, Hitoshi Komoto, Keijiro Masui (AIST, JP)	[E1-4] [E] Development of Low-Carbon Society Businesses in Japan Takashi Iwamoto ¹ , Hidetaka Aoki ² (1. Keio University, JP; 2. Global Brain Corporation, JP)
14:20-14:40	Coffee (Coffee is available at D7)				

Wednesday, December 2, 2015

	Room A (G402)	Room B (G403)	Room C (G404)	Room D (G405)	Room E (G407)
	[A2] Sustainable society (1) Chair: Rudi Meyer (NSCAD University, CA)	[B2] Eco-innovation and policy analysis Chair: Casper Boks (Norwegian University of Science and Technology, NO)	[C2] Ecodesign method and tools (2) Chair: Suiran Yu (Shanghai Jiao Tong University, CN)	[D2] Critical resource recovery Chair: Junbeum Kim (University of Technology of Troyes, FR)	[E2] (OS) Designing sustainable energy futures (1) Chair: Yusuke Kishita (AIST, JP)
14:40-16:00	[A2-1] [E] Sustainability Indicators – Overview, Synthesis and future Research Directions Christoph Hollauer, Martin Zapfel, Daniel Kammerl, Mayada Omer, Udo Lindemann (Technische Universität München, DE)	[B2-1] The Promotion and Diffusion of Environmental Innovations: Streamlining the Dissemination Mechanisms Helmut Yabar ¹ , Michinori Uwasu ² , Keishiro Hara ² (1. University of Tsukuba, JP; 2. Osaka University, JP)	[C2-1] Satisficing Design Method for Sustainable Performance, Profitability for Manufacturer and Reduction of Environmental loads Shuho Yamada ¹ , Tetsuo Yamada ² , Stefan Bracke ³ , Masato Inoue ¹ (1. Meiji University, JP; 2. The University of Electro-Communications, JP; 3. University of Wuppertal, DE)	[D2-1] Recovery of Useful Resources from End-of-Life Photovoltaic Module by liquefaction of cured EVA Tohru Kamo ¹ , Hiroyoshi Ito ² (1. AIST, JP; 2. Chiba University, JP)	[E2-1] [Keynote][E] Sustainable energy strategy primarily involving renewable resources in Japan Haruki Tsuchiya (Research Institute for Systems Technology, JP)
	[A2-2] [E] Postmodern Dynamics of Innovation and Knowledge in the Context of Sustainable Energy Development Harald E. Otto (Polytechnic University of Marche, IT)	[B2-2] Patentability considerations on Green Sustainable Design Fang-Lin Chao ¹ , King-Chai Hsu ² (1. Chaoyang University of Technology, TW; 2. Administrative Court, TW)	[C2-2] [E] A Framework for Sustainable Product Development Daniel Kammerl, Damian Schockenhoff, Christoph Hollauer, Dominik Weidmann, Udo Lindemann (Technische Universität München, DE)	[D2-2] Development of Recycling System of Precious Metals and Rare Metals from Secondary Resources Using "Organic Aqua Regius"-DMSO Solution Containing Copper Halides Akihiro Yoshimura, Miyako Isayama, Yasunari Matsuno (The University of Tokyo, JP)	<i>Continued</i>
	[A2-3] [E] The Role of Industrial Design in Effective Post-Disaster Management Areli Geraldine Avendano, Liam Fennessy, Judith Glover (RMIT University, AU)	[B2-3] [E] An Analysis of the Ecodesign Scientific Network 1994-2014 Jacobus Marthinus Van Der Bank ¹ , Casper Boks ² , Johan Braet ¹ (1. University of Antwerpen, BE; 2. Norwegian University of Science, NO)	[C2-3] A LCA based platform to support a systematic introduction of environmental criteria into the design process of mechatronic products M. Mengarelli, M. Germani, M. Mandolini, M. Marconi (Università Politecnica delle Marche, IT)	[D2-3] [E] Recovery of Metals from E-waste Mediated by Molten CRT Lead Glass Hiroyuki Inano ¹ , Keiichi Tomita ¹ , Tatsumi Tada ¹ , Naoki Hiroyoshi ² (1. Hokkaido Research Organization, JP; 2. Hokkaido University, JP)	[E2-2] Comparison of solar energy potential, policy and progress in different regions Hooman Farzaneh ¹ , Benjamin C. McLellan ¹ , Chapman, A. ¹ , Miguel Esteban ² (1. Kyoto University, JP; 2. The University of Tokyo, JP)
	[B2-4] Case Studies of Innovative Eco-Design Youngdo Jung, Hyunjung Im (KEITI, KR)	[C2-4] Dynamic model for product eco-design: case and analysis Staniskis Jurgis Kazimieras ¹ , Varzinskas Visvaldas ¹ , Katiliute Egle ¹ , Kruopis Nerijus ² (1. Kaunas University of Technology, LT; 2. Elgama-Elektronika, Ltd., LT)	[D2-4] Recycling of Critical Resources from LED Products Otmaz Deubzer ¹ , Lena Goullon ¹ , Rafael Jordan ¹ , Eduard Wagner ¹ , Janis Winzer ¹ , Maik Bergamos ² , Max Marwede ³ , Martin Schlummer ⁴ (1. Fraunhofer IZM, DE; 2. ELPRO GmbH, DE; 3. Technische Universität Berlin, DE; 4. Fraunhofer IVV, DE)	[E2-3] [E] Recent Developments in Ocean Energy and Offshore Wind: Financial Challenges and Environmental Misconceptions Miguel Esteban ¹ , Alexandros Gasparatos ² , Christopher N.H. Doll ³ (1. The University of Tokyo, JP; 2. The University of Tokyo, JP; 3. UNU-IAS, JP)	
16:00-16:20	Coffee (Coffee is available at D7)				

Wednesday, December 2, 2015

	Room A (G402)	Room B (G403)	Room C (G404)	Room D (G405)	Room E (G407)
	[A3] Sustainable society (2) Chair: Tomomi Nonaka (Aoyama Gakuin University, JP)	[B3] Ecodesign policy/Eco labelling Chair: Keijiro Masui (AIST, JP)	[C3] Information feedback to design stage Chair: Tomohiko Sakao (Linköping University, SE)	[D3] Innovative assembly and disassembly process Chair: Shinichi Fukushige (Osaka University, JP)	[E3] (OS) Designing sustainable energy futures (2) Chair: Miguel Esteban (The University of Tokyo, JP)
6 16:20-17:40	[A3-1] [E] From Eco to Sustainable Innovation: approach and methodology to guide design initiative into the innovation world Andrea Gaiardo, Paolo Tamborrini (Polytechnic University of Turin, IT)	[B3-1] Eco-Design Activity in Taiwan – From Design for Environment to Design for Sustainable Consumption Tsai Chi Kuo ¹ , Jahau Lewis Chen ² , Li-Hsing Shih ² , Jui Che Tu ³ , Allen H. Hu ⁴ , Sheng-Lung Lin ⁵ , Yung-Shuen Shen ⁶ (1. Chung Yuan Christian University, TW; 2. National Cheng Kung University, TW; 3. National Yunlin University of Science and Technology, TW; 4. National Taipei University of Technology, TW; 5. Chaoyang University of Technology, TW; 6. Mackay Medical College, TW)	[C3-1] [E] Investigating types of information from WEEE take-back systems in order to promote Design for Recovery Louise Lindkvist ¹ , Natalia Alonso Movilla ² , Erik Sundin ¹ , Peggy Zwolinski ² (1. Linköping University, SE; 2. University Grenoble Alpes, FR)	[D3-1] A Natural and Intuitive Constraint-Based Virtual Assembly System with a Wearable Haptic Interface Erh-Chieh Chang, Ting-Ko Hsu, Chien-Min Wu, Shana Smith (Department of Mechanical Engineering, TW)	[E3-1] [E] Renewable Energy Policy Efficacy and Sustainability: The role of equity in improving energy policy outcomes Andrew John Chapman, Tetsuo Tezuka, Benjamin McLellan (Kyoto University, JP)
	[A3-2] [E] The Need to Go Beyond “Green University” Ideas to Involve the Community at Naresuan University, Thailand Gwytorn Satean (Naresuan University, TH)	[B3-2] [E] Rethinking the Ecodesign Policy Mix in Europe Carl Dalhammar (Lund University, SE)	[C3-2] [E] Potential of Common Methods to Integrate Sustainability Requirements in the Product Development Process - a Case Study Maike Kosiol, Dominik Weidmann, Daniel Kammerl, Udo Lindemann (Technische Universität München, DE)	[D3-2] Automatic sorting of small electronic device scraps for rare metal recycling Shigeki Koyanaka (AIST, JP)	[E3-2] “What if we all lived by the sun?” Demand shifting for a renewable-driven society Benjamin C McLellan ¹ , Hooman Farzaneh ² , Miguel Esteban ³ , Mario I. Lopez ¹ (1. Kyoto University, JP; 2. United Nations University, JP; 3. The University of Tokyo, JP)
	[A3-3] Uncertainty analysis for the greenhouse gas impact of raw milk Yoosung Park ¹ , Kunmo Lee ¹ , Seunghak Yang ² (1. Ajou University, KR; 2. National Institute of Animal Science, KR)	[B3-3] [E] Global Initiative on UPCYCLE Carbon Footprint Certification and Label Systems for Creative Waste Management and Greenhouse Gas Reduction Rattanawan Mungkung, Singh Intrachooto, Tananon Nudchanate, Kannika Sorakon (Kasetsart University, TH)	[C3-3] A methodology platform for improved resource recovery from electronic products and design for end-of-life Keshav Parajuly, Henrik Wenzel (University of Southern Denmark, DK)	[D3-3] Concept Proposal and Feasibility Study of Remote Recycling - Design of the Screening Mechanism Yuta Kadowaki, Kenta Torihara, Nozomu Mishima (Akita University, JP)	[E3-3] Potential of Cooperation of Two Facilities Dealing with Urban Biomass Resources Tatsuya Kurafuchi ¹ , Noriaki Nakatsuka ¹ , Yusuke Kishita ² , Fumiteru Akamatsu ¹ (1. Osaka University, JP; 2. AIST, JP)
	[B3-4] Strategy of Implementing Carbon Labeling in Taiwan by Combining SWOT and ANP Allen H. Hu, Chia-Hsiang Chen, Meng-Ying Hong, Chien-Hung Kuo (National Taipei University of Technology, TW)		[D3-4] [E] Concept Proposal and Feasibility Study of Remote Recycling - Separation Characteristics and Cost-Profit Analysis- Kenta Torihara, Yuta Kadowaki, Jun Ooki, Nozomu Mishima (Akita University, JP)	[E3-4] Efficiency Improvements and Economic Evaluation by Exergy Analysis of Small Binary Power Generation with Unutilized Heat Hiroki Shibagaki, Yoshinori Hisazumi, Tsukasa Hori, Fumiteru Akamatsu (Osaka University, JP)	
18:15-20:30	Reception (Lounge G7)				

Thursday, December 3, 2015

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	Room A (G408)	Room B (G410)	Room C (G404)	Room D (G405)	Room E (G407)
	[A4] (OS) Future design for sustainability (1) Chair: Keishiro Hara (Osaka University, JP)	[B4] (OS) Locally-oriented sustainable design (1) Chair: Hideki Kobayashi (Osaka University, JP)	[C4] Green electronics (1) Chair: Yasunari Matsuno (The University of Tokyo, JP)	[D4] (OS) Additive manufacturing as sustainable manufacturing tool Chair: Shinsuke Kondoh (AIST, JP)	[E4] Sustainable energy system Chair: Koji Tokimatsu (Tokyo Institute of Technology, JP)
9:00-10:20	<p>[A4-1] [Keynote] Future Design Tatsuyoshi Saijo (Hitotsubashi University, JP)</p> <p style="text-align: center;"><i>Continued</i></p> <p>[A4-2] Future design - How to create future generations in visioning? Michinori Uwasu¹, Yusuke Kishita², Keishiro Hara¹, Junyi Shen³, Masashi Kuroda¹, Hiroyuki Takeda¹, Tatsuyoshi Saijo^{1,4,5} (1. Osaka University, JP; 2. AIST, JP; 3. Kobe University, JP; 4. Hitotsubashi University, JP; 5. Kochi Tech University, JP)</p> <p>[A4-3] Participatory deliberation for future design by creating virtual future generations – Evidence from an experimental workshop in Yahaba Town, Iwate, Japan Keishiro Hara¹, Ritsuji Yoshioka², Masashi Kuroda¹, Shuji Kurimoto¹, Tatsuyoshi Saijo³ (1. Osaka University, JP; 2. Yahaba town, JP; 3. Hitotsubashi University, JP)</p>	<p>[B4-1] [Keynote][E] Perspectives on Sustainable Product Design Methodology Focused on Local Communities Hideki Kobayashi (Osaka University, JP)</p> <p>[B4-2] [E] Proposal of a Design Method for Local Oriented Manufacturing in Developing Countries 1st report: Problem description and knowledge representation Tomoyuki Tamura¹, Hideki Kobayashi², Yasushi Umeda¹ (1. The University of Tokyo, JP; 2. Osaka University, JP)</p> <p>[B4-3] [E] Environment-community-human-oriented (ECHO) design - a context-appropriate design-thinking process for well-being of individuals, communities, and the local environment Sittha Sukkasi (MTEC, TH)</p> <p>[B4-4] Integrating Innovative Principles at the Bottom of Pyramid and Integrating Integrating Innovative Principles at the Bottom of Pyramid and TRIZ Theory to Develop Sustainable Product Design Method Jahau Lewis Chen, Shih-Hou Chung (National Cheng Kung University, TW)</p>	<p>[C4-1] Resource visualization technology for metal content of printed circuit boards Eri Matsunaga, Takashi Miwa, Kazue I Takahashi, Takashi Sawada (NTT Corporation, JP)</p> <p>[C4-2] Enabling Condition Based Maintenance of 2.5D Systems by Developing Canaries for Through Silicon Vias Kathleen Jerchel¹, Andreas Middendorf², Nils F. Nissen², Tadatomo Suga¹, Klaus-Dieter Lang^{2,3} (1. The University of Tokyo, JP; 2. Fraunhofer IZM, DE; 3. Technische Universitat Berlin, DE)</p> <p>[C4-3] Environment Friendly Printed Electronics by Thermal Lamination Masatoshi Sakai¹, Tatsuhiko Sasaki¹, Tokuyuki Ko¹, Kouta Nakamori¹, Shohei Yamaguchi¹, Yugo Okada¹, Hiroshi Yamauchi¹, Shoji Shinamura², Yuichi Sadamitsu², Kazuhiro Kudo¹ (1. Chiba University, JP; 2. Nippon Kayaku Co. Ltd., JP)</p> <p>[C4-4] Mission Profile Oriented Design for Energy Harvesting Systems to Reduce Environmental Impacts of Autonomous Sensors Stephan Benecke¹, Nils F. Nissen¹, Klaus-Dieter Lang^{1,2} (1. Fraunhofer IZM, DE; 2. Technical University of Berlin, DE)</p>	<p>[D4-1] [E] The potential of additive manufacturing technology for realizing a sustainable society Shinsuke Kondoh¹, Toshitake Tateno², Yusuke Kishita¹, Hitoshi Komoto¹, Shinichi Fukushima³ (1. AIST, JP; 2. Meiji University, JP; 3. Osaka University, JP)</p> <p>[D4-2] Design Support System for Product Renovation through Direct Digital Manufacturing Shinichi Fukushima, Kazutoshi Tsuda, Hideki Kobayashi (Osaka University, JP)</p> <p>[D4-3] [E] Bio-Degradable Mechatronic Products by Additive Manufacturing Toshitake Tateno¹, Yuta Yaguchi², Shinsuke Kondoh³ (1. Meiji University, JP; 2. Tamagawa University, JP; 3. AIST, JP)</p> <p>[D4-4] [E] The Monitoring of Three-Dimensional Printer Filament Feeding Process using an Acoustic Emission Sensor Pitchapa Lotrakul¹, Wimol San-Um¹, Masaaki Takahashi² (1. Thai-Nichi Institute of Technology, TH; 2. Institute of Technologists, JP)</p>	<p>[E4-1] Green servicing in renewable micro-generation - What about the impact on local energy autonomy? Jouni K. Juntunen (Aalto University School of Business, FI)</p> <p>[E4-2] Input-output analysis of Japan's use of renewable energy Ayu Washizu¹, Satoshi Nakano², Sonoe Arai³ (1. Waseda University, JP; 2. The Japan Institute for Labour Policy and Training, JP; 3. IAA, JP)</p> <p>[E4-3] Estimation of Surplus Power From Energy-efficient Solar House Satoko Nasu, Yasuo Sugai (Chiba University, JP)</p> <p>[E4-4] Analysis of the Roles of an Organic Chemical Hydride-Based Hydrogen Storage System in the Power Quality of a Microgrid Jorge Morel¹, Shin'ya Obara¹, Yuta Morizane³, Katsuaki Sato¹, Daisuke Mikawa¹, Hiroshi Watanabe², Tsunashi Tanaka² (1. Kitami Institute of Technology, JP; 2. Ricoh IT Solutions, Co., Ltd., JP; 3. Mitsubishi Electric Corporation, JP)</p>
10:20-10:40	Coffee (Coffee is available at D5)				

Thursday, December 3, 2015

	Room A (G408)	Room B (G410)	Room C (G404)	Room D (G405)	Room E (G407)
	[A5] (OS) Future design for sustainability (2) Chair: Keishiro Hara (Osaka University, JP)	[B5] (OS) Locally-oriented sustainable design (2) Chair: Jahau Chen (National Cheng Kung University, TW)	[C5] Green electronics (2) Chair: Otmar Deubzer (Fraunhofer IZM, DE)	[D5] Remanufacturing (1) Chair: Erik Sundin (Linköping University, SE)	[E5] Renewable energy system assessment Chair: Hyung-chul Kim (Ford Motor Company, US)
10:40-12:00	<p>[A5-1] Stimulating Innovation for Sustainability Transitions: The Role of Stakeholder Platforms for University-Industry-Government Collaboration on Smart Communities Masaru Yarime ^{1,2} (1. The University of Tokyo, JP; 2. University College London, UK)</p> <p>[A5-2] [E] Participatory design as a tool for effective sustainable energy transitions Benjamin C McLellan ¹, Yusuke Kishita ², Kazumasu Aoki ³ (1. Kyoto University, JP; 2. AIST, JP; 3. University of Toyama, JP)</p> <p>[A5-3] Study on “System of Systems” Design Method with Uncertainty Assessment based on Robust Optimality - Case Study of Distributed Energy System Design in Mishima Area, Osaka – Yutaka Nomaguchi ¹, Kazune Kawakami ¹, Kikuo Fujita ¹, Yusuke Kishita ², Keishiro Hara ¹, Michinori Uwasu ¹ (1. Osaka University, JP; 2. AIST, JP)</p> <p>[A5-4] Design and Formulation of a Local Circular Society: Cases of Biomass Recycling and its Strategic Aspects Tomohiro Tasaki ¹, Rokuta Inaba ¹, Eiko Kojima ¹, Kosuke Kawai ¹, Ryo Tajima ¹, Keisuke Tochio ², Hajime Yoshida ², Haruna Endo Ozawa ³ (1. NIES, JP; 2. Funai Consulting Inc., JP; 3. Coalition of Local Governments for Environmental Initiative, JP)</p>	<p>[B5-1] Unrealized Knowledge Creation Potential within the ESCO Concept at SOEs in Asia Harald E. Otto (Polytechnic University of Marche, IT)</p> <p>[B5-2] Developing an Innovation Business Model for Bottom of the Pyramid Markets Allen H. Hu, Cheng-Cheng Lin, Sandi Kuo, Ching-Yao Huang (National Taipei University of Technology, TW)</p> <p>[B5-3] The study of sustainable product design on BOP consumer Tsai Chi Kuo ¹, Wan Chen Sun ¹, Jessica Hanafi ², Rex Robielos ³ (1. Chung Yuan Christian University, TW; 2. Universitas Pelita Harapan, ID; 3. Mapua Institute of Technology, PH)</p> <p>[B5-4] Pico-Solar Lantern Repair & Recycling In East Africa James Turing (The University of Edinburgh, UK)</p>	<p>[C5-1] [E] What is 'value' and how can we capture it from the product value chain? Jacquetta Lee ¹, James R. Suckling ¹, Debra Lilley ², Garrath T. Wilson ² (1. University of Surrey, UK; 2. University of Loughborough, UK)</p> <p>[C5-2] [E] Evaluation of Resource Efficiency of Electrical and Electronic Equipment Tomoaki Kitajima, Yuji Sasaki, Nozomu Mishima (Akita University, JP)</p> <p>[C5-3] Development of a Methodological Framework for Assessing the Social Impacts of Electronic Products Karpagam Subramanian, Winco K.C. Yung (HK polytechnic University, HK)</p> <p>[C5-4] Robust Micro Identification Marking on FPC Surface Hidetaka Hayashi, Ryo Sano, Hiroyuki Nishikawa (Shibaura Institute of Technology, JP)</p>	<p>[D5-1] Remanufacturing Technology Developments for New Automotive Products Rolf Steinhilper ¹, Volker Muenster ², Alexander Nagel ¹ (1. University of Bayreuth, DE; 2. BU Drive Remanufacturing Company, DE)</p> <p>[D5-2] Lean Remanufacturing: addressing system challenges Jelena Kurilova-Palisaitiene, Erik Sundin (Linköping University, SE)</p> <p>[D5-3] [E] A Negotiation Model for Closed-Loop Supply Chains with Consideration for Economically Collecting Reusable Products Kenta Matsui, Yoshitaka Tanimizu (Osaka Prefecture University, JP)</p> <p>[D5-4] Examination of demand forecasting for remanufacturing without information of new product sales time distribution Mitsutaka Matsumoto ¹, Yasushi Umeda ² (1. AIST, JP; 2. The University of Tokyo, JP)</p>	<p>[E5-1] Assessment of the Carbon Footprint and Energy Payback Time of a High-Concentration Photovoltaic System Allen H. Hu ¹, Lance H. Huang ¹, Sylvia Lou ¹, Chin-Yao Huang ¹, Ke-Jen Chian ², Hao-Ting Chien ², Hwen-Fen Hong ² (1. National Taipei University of Technology, TW; 2. Institute of Nuclear Energy Research, TW)</p> <p>[E5-2] A proposal of the integrated performance indicator of residential fuel cell power system in consideration of eco-burden and resource depletion Yusuke Jinno, Kenji Koido, Kiyoshi Dowaki (Tokyo University of Science, JP)</p> <p>[E5-3] The Environmental Impact Analysis Of Manufacturing Different Tubular Solid Oxide Fuel Cell Modules Yu Suiran, Li Lu, Tao Jing, You Jiaxin (Shanghai Jiao Tong University, CN)</p> <p>[E5-4] Well-to-wheel analysis on biomethane from food wastes in Nakhon Nayok province, Thailand Kenji Koido ¹, Hisae Takeuchi ², Tatsuya Hasegawa ², Kiyoshi Dowaki ¹ (1. Tokyo University of Science, JP; 2. Nagoya University, JP)</p>
12:00-13:00	Lunch (Sandwich box is available at G409)				
13:00-14:00	Poster Session (G409)				

Thursday, December 3, 2015

	Room A (G408)	Room B (G410)	Room C (G404)	Room D (G405)	Room E (G407)
	[A6] (OS) Future design for sustainability (3) Chair: Michinori Uwasu (Osaka University, JP)	[B6] (OS) Locally-oriented sustainable design (3) Chair: Hideki Kobayashi (Osaka University, JP)	[C6] Green electronics (3) Chair: Shozo Takata (Waseda University, JP)	[D6] Remanufacturing (2) Chair: Carl Dalhammar (Lund University, SE)	[E6] Geographical sustainability assessment Chair: Kiyotaka Tahara (AIST, JP)
14:10-15:30	<p>[A6-1] Designing Sustainable Futures Using a Backcasting Approach Yusuke Kishita ¹, Yuji Mizuno ², Yasushi Umeda ³ (1. AIST, JP; 2. The Institute of Applied Energy, JP; 3. The University of Tokyo, JP)</p> <p>[A6-2] Examination of the Roundtable technique for Sustainable Society regional vision realize - A Case Study of Shiga Prefecture Takashima of "Takashima future-Roundtable" - Michinori Kimura ¹, Jageyu Kim ¹, Takashi Iwakawa ², Terukazu Kumazawa ³ (1. Lake Biwa Environmental Research Institute, JP; 2. Kyoto Institute for Eco-Social Systems, JP; 3. Research Institute for Humanity and Nature, JP)</p> <p>[A6-3] Will people's perceptions and judgements change in view of future generations? – Evidence from a questionnaire survey Keishiro Hara ¹, Tatsuyoshi Saijo ², Shuji Kurimoto ¹, Yusuke Kishita ³, Michinori Uwasu ¹, Yukari Fuchigami ¹ (1. Osaka University, JP; 2. Hitotsubashi University, JP; 3. AIST, JP)</p> <p>[A6-4] An Examination of Effective Forms of Two-Way Communication for Building a Consensus on Waterworks Policies Ritsuji Yoshioka (Yahaba town, JP)</p>	<p>[B6-1] A comparative analysis of consumers' perception towards remanufactured auto parts in the US and in Japan, and the implications Hideki Endo ¹, Mitsutaka Matsumoto ², Kenichiro Chinen ³ (1. Nihon Fukushi University, JP; 2. AIST, JP; 3. California State University, US)</p> <p>[B6-2] [E] Analysis of User Needs for Solar Cooker Acceptance Robert Wimmer, Myung Joo Kang, Chaipipat Pokpong, Ardeshir Mahdavi (Vienna University of Technology, AT)</p> <p>[B6-3] [E] Persuasive Design Aid for Products Leading to LOHAS Considering User Type Li-Hsing Shih (National Cheng Kung University, TW)</p>	<p>[C6-1] Ecodesign process of Samsung Electronics in the development of electronic equipment Hyejeong Go, Junghwa Hong, Jaehyun Choi, Taesoo Kim, Youngjin Suh (Samsung Electronics, KR)</p> <p>[C6-2] Environmental footprint of telecommunication products Lauri Smalen ¹, Saija Vatanen ², Timo Junno ¹, Timo Galkin ¹, Topi Volkov ¹ (1. Nokia, FI; 2. VTT, FI)</p> <p>[C6-3] A review on the result of eco-efficiency study Yongje Lee, Keemo Jeong, Inchan Hwang (SK hynix., KR)</p> <p>[C6-4] Gathering a Product's Footprint for Materials Traceability, Safety, and Collaborative Sustainability Rakesh Vazirani (TUV Rheinland, HK)</p>	<p>[D6-1] Combined Remanufacturing and Upgrading of a Diesel Engine into a LPG Gas Engine for River Barges Carsten Bucker ¹, A. Nagel ² (1. BU Bucker Unternehmensgruppe, DE; 2. Bayreuth University, DE)</p> <p>[D6-2] [E] Design for Remanufacturing and Circular Business Models Sharon Prendeville, Nancy Bocken (Delft University of Technology, NL)</p> <p>[D6-3] A study on hybrid manufacturing/remanufacturing system Yoshihiko Sasaki, Yasutaka Kainuma (Tokyo Metropolitan University, JP)</p> <p>[D6-4] [E] Analysis of Disassembly Characteristics and PSS Proposal by Component Reuse of Mobile Phones Hideyuki Sawanishi, Yuji Sasaki, Nozomu Mishima (Akita University, JP)</p>	<p>[E6-1] [E] Regionalized Input-Output Life Cycle Sustainability Assessment: Food Production Case Study Sergiy Smetana ^{1,2}, Christine Tamasy ¹, Alexander Mathys ², Volker Heinz ² (1. University of Vechta, DE; 2. German Institute of Food Technologies, DE)</p> <p>[E6-2] [E] Spatiotemporal tools for regional low-carbon development: linking LCA and GIS to assess clusters of GHG emissions from cocoa farming in Peru Giancarlo Raschio ^{1,2}, Sergiy Smetana ¹, Christian Contreras ², Alexander Mathys ¹, Volker Heinz ¹ (1. German Institute of Food Technologies, DE; 2. Ecosystem Services LLC, US)</p> <p>[E6-3] Improvement of Carbon Emissions in a Green Port via AIS and GIS Wu-Hsun Chung, Sheng-Long Kao, Chao-Wei Chen, Hsiao-Cheng Chang (National Taiwan Ocean University, TW)</p> <p>[E6-4] Merging Risk Assessment and Human Toxicity in Petrochemical Manufacturing Tatiana Perminova ^{1,2}, Bertrand Laratte ¹, Natalya Baranovskaya ² (1. Universite de technologie de Troyes, FR; 2. National Research Tomsk Polytechnic University, RU)</p>
15:30-15:45	Coffee (Coffee is available at D5)				

Thursday, December 3, 2015

15:45-16:30	<p style="text-align: center;">Plenary keynote 3 (Hall D5) Kiyoto Furuta Senior General Manager of the Global Environment Center, Canon Inc., Japan Canon Environmental Activities & Approach on a new information transfer scheme <i>chemSHERPA</i> for chemicals in products</p>
16:30-17:15	<p style="text-align: center;">Plenary keynote 4 (Hall D5) John Disharoon Director of Market Access for Caterpillar Remanufacturing, Components and Work Tools Division, Caterpillar Inc., USA Caterpillar Remanufacturing: The Business of Sustainable Development</p>
19:00-21:30	<p style="text-align: center;">Banquet (Hotel Chinzanso Tokyo, Shuttle busses are available)</p>

Friday, December 4, 2015

	Room A (G408)	Room B (G410)	Room C (G404)	Room D (G405)	Room E (G407)
	[A7] Sustainable consumption Chair: Allen Hu (National Taipei University of Technology, TW)	[B7] PSS design Chair: Hitoshi Komoto (AIST, JP)	[C7] Sustainable manufacturing Chair: Sharif Ullah (Kitami Institute of Technology, JP)	[D7] Ecodesign of handicrafts Chair: Tomohiro Tasaki (NIES, JP)	[E7] (OS) Designing sustainable energy futures (3) Chair: Benjamin McLellan (Kyoto University, JP)
9:00-10:20	[A7-1] Sustainable Consumption and Poverty Alleviation: A Case of Nigeria Christian N Madu ^{1,3} , Benjamin C. Ozumba ² , Valentine E. Nnadi ¹ , Ikenna Ezeasor ¹ , Ifeanyi Madu ³ , Hillary I. Eze ¹ (1. University of Nigeria, NG; 2. University of Nigeria, NG; 3. Pace University, US)	[B7-1] [E] Actors and System Maps – A Methodology for Developing Product/Service Systems Avni Desai, Mattias Lindahl, Maria Widgren (Linköping University, SE)	[C7-1] Sustainability assessment for wireless micro systems in smart manufacturing environments Stephan Benecke ¹ , Sabrina Neugebauer ¹ , Bernd Peukert ¹ , Nils F. Nissen ² , Eckart Uhlmann ¹ , Klaus-Dieter Lang ^{1,2} (1. Fraunhofer IZM, DE; 2. Technical University of Berlin, DE)	[D7-1] [E] Eco-design and Life Cycle Assessment of Japanese Tableware from Palm-Melamine Bio-Composites Singh Intrachooto, Rattanawan Mungkung, Kittiwat Kitpakornsanti (Kasetsart University, TH)	[E7-1] [E] Sustainable Renewable Energy Financing: Case Study of Kenya Olang Tabitha, Esteban Miguel (The University of Tokyo, JP)
	[A7-2] Food waste reduction, an overview of the field Sofie Oestergaard ¹ , Casper Boks ² (1. Cernova, NO; 2. Norwegian University of Science and Technology, NO)	[B7-2] Qualitative Simulation for Early-Stage Service Design Yoshiki Morishita ¹ , Fumika Murakami ¹ , Koji Kimita ¹ , Shigeru Hosono ² , Sayaka Izukura ² , Hiroshi Sakaki ² , Eriko Numata ² , Yoshiki Shimomura ¹ (1. Tokyo Metropolitan University, JP; 2. NEC Corporation, JP)	[C7-2] [E] Systems Approach to Resource Efficient and Cleaner Production Solutions: Method & Implementation Staniskis Jurgis Kazimieras, Katiluite Egle (Kaunas University of Technology, LT)	[D7-2] [E] Consumer's Lifestyle and Its Impact on Eco-Product Aesthetics Chen-Fu Chen (Ming Chuan University, TW)	[E7-2] Energy Saving Potential of Next Generation BEMS Hiromi Okubo ¹ , Kazuki Mitamura ¹ , Yoshiyuki Shimoda ¹ , Hiromasa Tanaka ² , Shingo Tanabe ² , Kaori Shiraishi ² (1. Osaka University, JP; 2. Nikken Sekkei Ltd, JP)
	[A7-3] Sustainable Development of the Food Supply Chains from Consumer's Perspective: A Case Study of Plum Supply Chain in the Northwest Upland Vietnam Hoang Thanh Tung ¹ , Anoma Ariyawardana ¹ , Pham Thi Hanh Tho ² (1. The University of Queensland, AU; 2. Center for Agrarian Systems Research and Development, VN)	[B7-3] [E] PSS without PSS Design - Possible Causes, Effects and Solutions Johannes Matschewsky (Linköping University, SE)	[C7-3] Lubricating and degradability behavior of environmental friendly thin film HPMC Shih-Chen Shi, Teng-Feng Huang, Jhen-Yu Wu (National Cheng Kung University (NCKU), TW)	[D7-3] Playground and Toys as a Medium in Promoting Green Lifestyle Muhamad Ezran Zainal Abdullah, Nor Hamizah Abdul Hamid (Universiti Malaysia Kelantan, MY)	[E7-3] [E] A fully renewable DC Microgrid with autonomous power distribution algorithm Nobuyuki Kitamura ¹ , Annette Werth ^{1,2} , Kenji Tanaka ¹ (1. The University of Tokyo, JP; 2. Sony Computer Science Laboratory Inc., JP)
10:20-10:40	Coffee (Coffee is available at D5)				

Friday, December 4, 2015

	Room A (G408)	Room B (G410)	Room C (G404)	Room D (G405)	Room E (G407)
	<p>[A8] Prospects of ecodesign research (1) Chair: Mitsutaka Matsumoto (AIST, JP)</p>	<p>[B8] Sustainable supply chain management Chair: Jouni Juntunen (Aalto University, FI)</p>	<p>[C8] Green building Chair: Sittha Sukkasi (MTEC, TH)</p>	<p>[D8] Ecodesign simulation (1) Chair: Hiroyuki Hiraoka (Chuo University, JP)</p>	<p>[E8] (OS) Designing sustainable energy futures (4) Chair: Kenji Tanaka (The University of Tokyo, JP)</p>
10:40-12:00	<p>[A8-1] Rapid Change of global material flow and the requirement for Eco-design Kohmei Halada (NIMS, JP)</p> <p>[A8-2] Challenges and trends within eco-design Fredrik Paulson, Erik Sundin (Linköping University, SE)</p> <p>[A8-3] Long-term Research Cycles for Green Electronics Nils F. Nissen¹, Lutz Stobbe¹, Karsten Schischke¹, Klaus-Dieter Lang^{1,2} (1. Fraunhofer IZM; 2. Technical University of Berlin)</p>	<p>[B8-1] The Effects of Eco-Design of LG Household & Health Care's Dishwashing Detergent on Carbon Emission Reduction Jong Seok Kim, Bong Sig Yang (LG Household & Health care, KR)</p> <p>[B8-2] Potentials and Constraints for Companies Improving the Resource Efficiency of their Products Sandra Link¹, Naemi Denz², Hermann Kloberdanz¹ (1. Technische Universität Darmstadt, DE; 2. VDMA, DE)</p> <p>[B8-3] [E] Preliminary Research on the Perception and Implementation of Sustainable Supply Chain in Indonesian Companies Jessica Hanafi, Helena Juliana Kristina, Ogi Y. Poernama (Universitas Pelita Harapan, ID)</p> <p>[B8-4] Engaging the supply chain on eco-design topics to stimulate innovation - BT Better Future Supplier Forum Keagan Rubel, John Spear (epi Consulting, UK)</p>	<p>[C8-1] [E] Sustainability Assessment of High-rise and High-Density Urban Structures Chisato Takahashi¹, Tomomi Nonaka², Masaru Nakano³ (1. Shimizu Corporation, JP; 2. Aoyama Gakuin University, JP; 3. Keio University, JP)</p> <p>[C8-2] The method of composition of plant raw brick Shang-Jen Chen, Wen-Cheng Shao, Kuang-Hui Peng (National Taipei University of Technology, TW)</p> <p>[C8-3] Durability: A Key to Sustainable Building Design (SBD) Ali Vakili Ardebili (The University of Tehran, IR)</p>	<p>[D8-1] [E] A Fuzzy Monte Carlo Simulation Technique for Sustainable Society Scenario (3S) Simulator AMM Sharif Ullah (Kitami Institute of Technology, JP)</p> <p>[D8-2] [E] Simulation-based uncertainty quantification in end-of-life operations for strategic development of urban mines Hitoshi Komoto, Shinsuke Kondo, Keijiro Masui (AIST, JP)</p> <p>[D8-3] [E] Integrated Production and Transportation Scheduling for Low-Carbon Supply Chains Yoshitaka Tanimizu, Hiromasa Ito, Kenta Matsui (Osaka Prefecture University, JP)</p>	<p>[E8-1] Perovskite Solar Cells: The Next Promising Technology? Ranaporn Tantiwechwattikul¹, Kazuhiro Kawashima¹, Hideomi Koinuma², Kohzo Ito¹ (1. The University of Tokyo, JP; 2. NIMS, JP)</p> <p>[E8-2] [E] The minerals-energy nexus - past, present and future Benjamin C McLellan^{1,2} (1. Kyoto University, JP; 2. The University of Queensland, AU)</p> <p>[E8-3] Perspectives on mineral-energy nexus by a global systems modeling Koji Tokimatsu^{1,2}, Rieko Yasuoka³, Masahiro Nishio² (1. Tokyo Institute of Technology, JP; 2. AIST, JP; 3. System Research Center Co. LTD., JP)</p> <p>[E8-4] [E] Oil and Gas industry's role on the transition to a low-carbon future in Thailand Warathida Chaiyapa¹, Miguel Esteban¹, Kameyama Yasuko² (1. The University of Tokyo, JP; 2. NIES, JP)</p>
12:00-13:00	Lunch (Lunch box is available at D5)				

Friday, December 4, 2015

	Room A (G408)		Room C (G404)	Room D (G405)	Room E (G407)
	<p>[A9] Prospects of ecodesign research (2) Chair: Yasushi Umeda (The University of Tokyo, JP)</p>		<p>[C9] Green telecommunication and electronics Chair: Erin Gately (Green Electronics Council, US)</p>	<p>[D9] Ecodesign simulation (2) Chair: Tsai-Chi Kuo (Chung Yuan Christian University, TW)</p>	<p>[E9] Sustainable transportation Chair: Nozomu Mishima (Akita University, JP)</p>
13:00-14:20	<p>[A9-1] Eco-Co-design – Ecodesign with Communication, Cooperation, and Co-creation: A preliminary report Tomohiko Sakao (Linköping University, SE)</p> <p>[A9-2] Improvisation: Negotiating needs and scarcity through design Rudi Meyer (NSCAD University, CA)</p> <p>[A9-3] [E] The future of design for sustainable behaviour, revisited Casper Boks¹, Debra Lilley², Ida Nilstad Pettersen¹ (1. Norwegian University of Science and Technology, NO; 2. Loughborough University, UK)</p>		<p>[C9-1] [E] Material recovery and environmental impact by informal e-waste recycling site in the Philippines Atsushi Terazono¹, Masahiro Oguchi¹, Aya Yoshida¹, Ruji P. Medina², Florencio C. Ballesteros, Jr.² (1. NIES, JP; 2. University of the Philippines, PH)</p> <p>[C9-2] [E] Analysis modeling for electricity consumption in communication buildings Minako Hara¹, Atsushi Sakurai¹, Hiroki Oka¹, Yuriko Tanaka¹, Yohei Yamaguchi², Yusuke Kishita³, Yasushi Umeda⁴, Yoshiyuki Shimoda² (1. NTT Corporation, JP; 2. Osaka University, JP; 3. AIST, JP; 4. The University of Tokyo, JP)</p> <p>[C9-3] Describing Long-term Scenarios of Electricity Consumption in the Telecommunications Industry Yusuke Kishita¹, Yohei Yamaguchi², Yasushi Umeda³, Yoshiyuki Shimoda², Minako Hara⁴, Atsushi Sakurai⁴, Hiroki Oka⁴, Yuriko Tanaka⁴ (1. AIST, JP; 2. Osaka University, JP; 3. The University of Tokyo, JP; 4. NTT Corporation, JP)</p>	<p>[D9-1] [E] Usage of a Digital Eco-Factory for a Printed-Circuit Assembly Line Yasuhiro Sudo¹, Michiko Matsuda¹, Fumihiko Kimura² (1. Kanagawa Institute of Technology, JP; 2. Hosei University, JP)</p> <p>[D9-2] [E] User Adapting System Design for Improved Energy Efficiency During the Use Phase of Products: Case Study of an Occupancy-Driven, SelfLearning Thermostat Yannick De Bock¹, A. Auquilla^{1,2}, K. Kellens¹, D. Vandevenne¹, A. Nowe³, J. R. Duflou¹ (1. KU Leuven, BE; 2. University of Cuenca, EC; 3. Vrije Universiteit Brussel, BE)</p> <p>[D9-3] [E] Seller-Buyer Matching for Promoting Product Reuse Using Distanced-Based User-Grouping Yuki Yamamori, Yumihito Yokoki, Hiroyuki Hiraoka (Chuo University, JP)</p> <p>[D9-4] Criteria Assessment in Design Evaluation for Product Development using Integrated Fuzzy-TOPSIS Faiz Mohd Turan (Universiti Malaysia Pahang, MY)</p>	<p>[E9-1] Climate Change Implications of Vehicle Lightweighting: A Fleet-Based Life Cycle Assessment Hyung Chul Kim, Robert De Kleine, Timothy J. Wallington (Ford Motor Company, US)</p> <p>[E9-2] A Study on Development and Utilization of Next-Generation Mobility Equipment ~Development and Performance evaluation of Air Engine Vehicles ~ Kana Matsuura, Kaoru Kubono, Hiroshi Onoda, Katusya Nagata (Waseda University, JP)</p> <p>[E9-3] [E] Study on the Diffusion of NGVs in Japan and Other Nations using the Bass Model Yue Zhu¹, Koji Tokimatsu¹, Mitsutaka Matsumoto² (1. Tokyo Institute of Technology, JP; 2. AIST, JP)</p> <p>[E9-4] Environmental effect of car cruising speed in consideration of natural wind Akinori Kaneta, Takato Ito, Tetsushi Mimuro (Akita Prefectural University, JP)</p>
14:30-15:10	Award & Closing (D5 Hall)				

Poster Session

Thursday, December 3, 2015: 13:00-14:00 (G409)

[P-1] Eco innovation policy
<p>[P1-1] Opportunities and Challenges for New Korean Integrated Pollution Prevention and Control Regulation with Product Service System Jong Min Kim, Kyoung Hoon Han, Jin Ho Kim, Seok Jin Hong, Ki Ho Lee (KNCPC, KR)</p>
<p>[P1-2] Analysis of Relation between Environment Policy Instruments and Innovations: Case Study in Japan Rajeev Kumar Singh, Helmut Yabar, Yoshiro Higano, Takeshi Mizunoya (University of Tsukuba, JP)</p>
<p>[P1-3] Estimates of disaster waste and damage costs from great earthquakes along the Nankai Trough: The case of Kanagawa prefecture Hiroshi Sao ¹, Reina Mizuno ², Akio Onishi ¹ (1. Tokyo City University, JP; 2. Chodai Co., Ltd., JP)</p>
<p>[P1-4] [E] Key Success Factors of Green Innovation for Transforming Traditional Industries Yu-Chen Huang ¹, Jui-Che Tu ², Tsai-Wei Lin ² (1. National University of Kaohsiung, TW; 2. National Yunlin University of Science and Technology, TW)</p>
<p>[P1-5] Quantitative analysis of China's industrial structure based on input-output table and social network analysis Li Zhaoling, Helmut Yabar, Takeshi Mizunoya, Yoshiro Higano (University of Tsukuba, JP)</p>
<p>[P1-6] Simulation Analysis of Waste Recycling Policy towards Designing a Sound Material-cycle Society: Case Study in Tokyo Noriko Nozaki, Lu Keyu, Takeshi Mizunoya, Helmut Yabar, Yoshiro Higano (University of Tsukuba, JP)</p>
<p>[P1-7] Introducing Integrated Waste Management Systems in Developing Countries: Case Study in Santiago de Chile Ailyn Rojas C., Helmut Yabar, Yoshiro Higano, Takeshi Mizunoya (University of Tsukuba)</p>
<p>[P1-8] Sustainable Land Development and Management Ali Vakili Ardebili (The University of Tehran, IR)</p>
[P-2] Corporate strategy and consumers
<p>[P2-1] [E] How Japanese companies can contribute to water sustainability Yoshihiko Sakamoto, Takashi Iwamoto (Keio University, JP)</p>
<p>[P2-2] [E] Research on Corporate Social Responsibility Advertising Design Tsai-Feng Kao ¹, Jui-Che Tu ² (1. Overseas Chinese University, TW; 2. National Yunlin University of Science and Technology, TW)</p>
<p>[P2-3] How do public interest and knowledge affect environmental conscious consumption? Dai Kimura, Kiyoshi Shibata (Chiba Institute of Technology, JP)</p>
<p>[P2-4] Development of safety system for accidents in waste management and recycling facilities Taichi Kobayashi, Tomoyuki Takahashi, Hiroshi Onoda, Katsuya Nagata (Waseda University, JP)</p>

Thursday, December 3, 2015: 13:00-14:00 (G409)

[P-3] Product ecodesign and education	
[P3-1] Decoupling of component from product for the new g-BOM design approach	Yoon-ha Kim, Kunmo Lee (Ajou University, KR)
[P3-2] Effects of physical life distribution of a reusable unit in environmentally-conscious products on reuse efficiency	Yuya Sakaguchi, Susumu Okumura, Yuji Hatanaka, Kazunori Ogohara (University of Shiga Prefecture, JP)
[P3-3] Simultaneous evaluation of environmental impact and incurred cost on selection of end-of-life products recovery options	Yuuki Matsumoto, Susumu Okumura, Yuji Hatanaka, Kazunori Ogohara (University of Shiga Prefecture, JP)
[P3-4] A Model Based on Design Features to Evaluate Product Life Cycle Energy Consumption	Lirong Zhou, Fangyi Li, Jianfeng Li, Jing Li, Xingshuo Xu (Shandong University, CN)
[P3-5] Study On The Influence Mechanism Of Planar Linkages On Energy Consumption Of Heavy-Duty Mechanical Servo Presses	Li Lu, Tao Jing, Zhang Jie, Yu Suiran (Shanghai Jiao Tong University, CN)
[P3-6] [E] Undergraduate Students Designing Environmental Concern Products – A Case Study in Design Education	Edilson S Ueda, Fumio Terauchi (Chiba University, JP)
[P3-7] Sustainable and industrial useful consideration of pet companion robot for elderly	Fang-Lin Chao ¹ , King-Chai Hsu ² (1. Chaoyang University of Technology, TW; 2. Administrative Court, TW)
[P-4] Sustainability assessment and indices	
[P4-1] The Carbon Partnership Performance of LG Household & Health care	Jong Seok Kim ¹ , Bong Sig Yang ¹ , Wan Soo Kim ¹ , Yoon Jin Mo ¹ , Tae Hwan Park ¹ , Ji Sun Jung ² (1. LG Household & Health care, KR; 2. SMaRT-ECO Co., Ltd., KR)
[P4-2] Case study for Water Footprint of the Shampoo in Korea	Yoosung Park, Sungmo Yeon, Yoojin Shin, Jungeun Kim (WEGOS, KR)
[P4-3] [E] Potential for Greenhouse Gases Mitigation at a Typical Roughage Production System in the Japanese Dairy System	Tatsuo Hishinuma ¹ , Kazuyoshi Suzuki ² , Yutaka Genchi ³ (1. Utsunomiya University, JP; 2. Chiba Prefectural Livestock Research Center, JP; 3. AIST, JP)
[P4-4] [E] Batik Life Cycle Assessment Analysis (LCA) for Improving Batik Small and Medium Enterprises (SMEs) Sustainable Production in Surakarta, Indonesia	Ghita Yoshanti ^{1,2} , Kiyoshi Dowaki ¹ (1. Tokyo University of Science, JP; 2. Institut Teknologi Bandung, ID)
[P4-5] A Life Cycle Assessment Study of Single-Use Cups as Packages of Tea Soft Drinks in Taiwan	Sheng-Lung Lin, Jian-You Wu (Chaoyang University of Technology, TW)
[P4-6] Estimation of electricity consumption and global warming potential in Internet in Japan	Yasunari Matsuno ¹ , Osamu Namikawa ² (1. The University of Tokyo, JP; 2. Hitachi, Ltd., JP)
[P4-7] Quantification of the Greenhouse gas (GHG) emission of a product service system (PSS) based on the uncertainty analysis – A case study of the lithium iron phosphate battery of a golf cart	Jong-Seok Lee ¹ , Jong-Min Kim ² , KunMo Lee ¹ (1. Ajou University, KR; 2. KNCPC, KR)
[P4-8] Uncertainty Analysis of the Greenhouse Gas Emissions in the Feedstuff Production stage of the Beef Cattle Farming - case study	Min-Hyeok Lee ¹ , Seung-hak Yang ² , Kun-Mo Lee ¹ (1. Ajou University, KR; 2. National Institute of Animal Science, KR)

Thursday, December 3, 2015: 13:00-14:00 (G409)

[P4-9] [E] Analysis of the Energy Consumption of Building Automation Systems

Tamas Ivancsy, Zoltan Adam Tamus (Budapest University of Technology and Economics, HU)

[P4-10] Design and evaluation of low carbon strategy for restructuring sewage sludge and municipal waste treatment facilities under population decline: A case study of Wakayama City, Japan

Akifumi Nakao, Yugo Yamamoto, Noboru Yoshida (Wakayama University, JP)

[P4-11] Environmental Effects on Biodiversity of Solar Power Facilities

Kazue I. Takahashi¹, Takashi Sawada¹, Masaharu Motoshita², Kayo Murakami³, Norihiro Itsubo⁴ (1. NTT Corporation, JP; 2. AIST, JP; 3. Kyoto University, JP; 4. Tokyo City University, JP)

[P4-12] [E] Research on Evaluation Index System and Comprehensive Evaluation of Typical Eco-industrial Parks

Lei Zhang^{1,2}, Xing Meng³, Hongbing Yu³, Toru Matsumoto¹, Xi Chen² (1. The University of Kitakyushu, JP; 2. Sino-Japan Friendship Centre for Environmental Protection, CN; 3. Nankai University, CN)

[P-5] New energy system and technology

[P5-1] Study of the Light Receiving Characteristics of a Plant Shoot Model by Simulating the Evolutionary Process of a Tree

Takuya Adachi¹, Shin'ya Obara¹, Osamu Kawae² (1. Kitami Institute of Technology, JP; 2. National Institute of Technology, JP)

[P5-2] Design of an Optimal Energy System for an Isolated Island (Eco-Island) in a Cold Region in Japan

Katsuaki Sato¹, Shin'ya Obara¹, Jorge Morel¹, Hiroshi Watanabe², Tsunashi Tanaka², Yuta Morizane³, Daisuke Mikawa¹ (1. Kitami Institute of Technology, JP; 2. Ricoh IT Solutions Co., Ltd., JP; 3. Mitsubishi Electric Corporation, JP)

[P5-3] Study of the Optimal Distribution of Wind and Solar Farms in Hokkaido Island using Genetic Algorithm

Yuta Utsugi, Shin'ya Obara (Kitami Institute of Technology, JP)

[P5-4] Analysis of the Energy Sector in Argentina: Exploring the Potential of Biogas Production

Florencia Venier, Yabar Helmut, Yoshiro Higano, Takeshi Mizunoya (University of Tsukuba, JP)

[P5-5] Development of a Small Temperature Difference Generator Based on the Energy Storage Characteristics of a CO₂ Hydrate

Masamitsu Takabatake¹, Shin'ya Obara¹, Masahito Kawai², Kyosuke Ishikawa¹, Ryo Kawai¹, Daisuke Mikawa¹ (1. Kitami Institute of Technology, JP; 2. Hakodate National College of Technology, JP)

[P5-6] Modeling and Load Response Characteristics of a Gas-hydrate Power Generation System

Daisuke Mikawa¹, Shin'ya Obara¹, Masahito Kawai², Masamitsu Takabatake¹ (1. Kitami Institute of Technology, JP; 2. Hakodate College, JP)

[P5-7] Investigation of the Basic Characteristics of a CO₂ Hydrate Using Plate Type Heat Exchangers

Kyosuke Ishikawa, Shin'ya Obara, Masamitsu Takabatake, Ryo Kawai (Kitami Institute of Technology, JP)