

PROGRAM

■ PLENARY SESSIONS

(1) Vision 2050 and the Role of Japan toward the Sustainable Society

Date: December 12 (Mon.), 13:00 - 14:00

Place: Room S

PL1-1: Vision 2050 and the Role of Japan toward the Sustainable Society
Prof. Hiroshi Komiyama, President, The University of Tokyo, Japan

(2) EcoDesign in Asia

Date: December 13 (Tue.), 13:30 - 15:30

Place: Room S

PL2-1: Importance of EcoDesign in Asia (tentative)
Prof. Ryoichi Yamamoto, The University of Tokyo, Japan

PL2-2: Promoting Circular Economy in China: strategies and policies (tentative)
Ms. Zhou Guomei, State Environmental Protection Administration of China, China

Panel Discussion

International Cooperation to Create Harmonized Industry in Asia

Panelists (tentative)

Prof. Ryoichi Yamamoto, The University of Tokyo, Japan

Dr. Guang Xia, State Environmental Protection Administration, China

Dr. Narito Shibaiki, Matsushita Electric Industrial, Japan

Mr. Panfeng Chen, Huawei Tech Co. Ltd., China

Organizer: Hidetaka Hayashi, The Univ. of Tokyo, Japan

(3) International Standardization of EcoDesign

Date: December 14 (Wed.), 14:30 - 16:00

Place: Room S

PL3-1: Standardization to Realize Global Eco-design Harmonization
Dr. Yoshiaki Ichikawa, Hitachi Ltd., Japan

PL3-2: Standardization of EcoDesign in Japan (tentative)
Mr. Kouichi Shioda, METI, Japan

PL3-3: The Standardization of EcoDesign in EU
The Work of CENELEC TC 111X "Environment" and the Program of Standardisation Work in the Field of Eco-design of Energy-using Products (EuP)
Mr. Andrea Legnani, Italian Federation of Electrotechnical and Electronic Industries, EU

■ SPECIAL SESSION

Opening Ceremony

Date: December 12 (Mon.), 9:30 - 10:15

Place: Room S

Message from Organizer

Prof. Ryoichi Yamamoto, Symposium Chair

Message from Ministry of the Environment

Yuriko Koike, Minister of the Environment (Tentative)

Award Presentation & Closing

Date: December 14 (Wed.), 16:15 - 17:00

Place: Room S

Award Presentation

Prof. Shin'ya Nagasawa, Chair of Award Committee

Closing Remarks 1

Associate Prof. Patrick Eagan, Co-chair of EcoDesign 2005 Organizing Committee

Closing Remarks 2

Prof. Yuji Furukawa, Co-chair of EcoDesign 2005 Organizing Committee

■ FRIENDSHIP PARTY

Date: December 13(Tue.) 18:00 - 20:00

Place: KKR Hotel Tokyo 10F ZUIHO (It takes about 3 minutes from the conference place)

EcoDesign 2005 provides all attendees with the opportunity to exchange EcoDesign activities and make a friendship each others.

■ TECHNICAL TOUR (for registrants only)

Date: December 15 (Thu.) 8:30 -

Starting Point: KKR Hotel Tokyo Lobby

Venue: Hyper Cycle Systems Corporation

EcoProducts 2005 Exhibition

■ RELATED EVENT

Workshop: Eco-Design with GaBi 4 - Practical Application - Learn about Eco-Design & Do an Eco-Design example on your own -

Date: December 13(Tue.) 9:30 - 16:00

Place: Meeting Room on the 2nd Floor.

Content of the workshop

- Introduction to Eco-Design and LCA (Life Cycle Assessment)
- Applications of Eco-Design and LCA within industry and research
- Demonstration of use of software "GaBi 4"
- Tutorial on GaBi 4

The workshop will be performed by experts from University of Stuttgart and PE Asia. Workshop language is English - the instructors speak Japanese and German as well.

Tutorial participants should bring their own laptop and preferably should have installed the demo version of GaBi4 in advance (download www.gabi-software.com).

■ PRESENTATION PROGRAM

All sessions are relevant to one of the following session topics.

- 1) EcoDesign of Social System (Special Theme)
 - 2) Eco Life-style
 - 3) Sustainable Businesses
 - 4) Environmentally Conscious Products and Services
 - 5) Sustainable Consumption and Recovery of Resource and Energy
- Asia) EcoDesign in Asia (Special Theme)

In this program, the letters after session numbers represent the presentation of Short Paper [S:15min] or Full Paper [F:25min].

Tuesday, December 12

9:30 Opening Ceremony

- 10:30 - 11:50 [1A-1] Sustainable Society and Business (Special Theme)**
- 1A-1-1S Ecodesign and Sustainable Business Practice: Insights from Design-led SMEs in Wales (UK)**
Frank O'Connor, Iain Cox, Univ. of Wales Inst., UK
- 1A-1-2S Marketability of Long Life Products**
Shin'ya Nagasawa¹, Pi-Ju Tsai², ¹Waseda Business School, Japan, ²I-Shou Univ., Taiwan
- 1A-1-3F Sustainable Cycle-Oriented Society from the Viewpoint of Diversity in Consumers' Decision Making**
Takeshi Maeda, Toshiharu Taura, Kobe Univ., Japan
- 1A-1-4F Decision Making of Economic Agents for Durable-Goods Recycling**
Hiroki Nakayama¹, Nariaki Nishino¹, Sobei H. Oda², Kanji Ueda¹, ¹The Univ. of Tokyo, Japan, ²Kyoto Sangyo Univ., Japan
- 14:15 - 15:45 [1A-2] Consumer Modeling**
- 1A-2-1S A Conceptual Model for Sustainable Consumption**
Ming Xu, Tianzhu Zhang, Tsinghua Univ., China
- 1A-2-2F How Design of Products Affects User Behaviour and Vice Versa: the Environmental Implications**
Edgar Rodríguez¹, Casper Boks², ¹Univ. of Wellington, New Zealand, ²Delft Univ. of Technology, The Netherlands
- 1A-2-3F Agent-based and Term-rewriting Method for Product Upgradeable Design**
Bing Zhang, Fumihiko Kimura, The Univ. of Tokyo, Japan
- 1A-2-4F Consumers' Behavior and Environmental Impact of Time Use: An Analysis by the Waste Input-output Model and a Consumer Model**
Koji Takase¹, Yasushi Kondo², Ayu Washizu², ¹Shizuoka Univ., Japan, ²Waseda Univ., Japan
- 16:00 - 18:00 [1A-3] Ecodesign Education**
- 1A-3-1S Withdraw Due to No Paper Submission**
- 1A-3-2S Withdraw Due to No Paper Submission**
- 1A-3-3S Intellectual Property Education for Sustainable Development of the Society**
Haru-Hisa Uchida, Aki Ohtsuka, Masayoshi Sumida, Tokai Univ., Japan
- 1A-3-4F The Evolution of Design for Sustainability Courses**
Jan Carel Diehl, Casper Boks, Sacha Silvester, Delft Univ. of Technology, The Netherlands
- 1A-3-5F Ecodesign Knowledge Transfer: How to Take the Economical and Cultural Context of the Receiver into Consideration**
Jan Carel Diehl, Delft Univ. of Technology, The Netherlands
- 1A-3-6F Strategies for Enhancing Environmental Communication that Targets Education and Encourages Activism.**
Yoko Mayuzumi, Ikuro Choh, Waseda Univ., Japan
- 10:30 - 11:50 [1B-1] Eco-Product and Eco-Material in Asia (Special Theme)**
- 1B-1-1S Withdraw Due to No Paper Submission**
- 1B-1-2F Utilizing Sago (Metroxylon spp) Bark Waste for Value Added Products.**
Khairul Aidil Azlin Abd Rahman, Univ. Malaysia Sarawak, Malaysia
- 1B-1-3S The Instructional Planning and Guidelines for the Courses of Green Package Design**
Chen-Fu Chen, Chia-Yi Huang, Ming Chuan Univ., Taiwan
- 1B-1-4F Lemba (Curculigo Latifolia) Leaf as a New Materials for Textiles**
Nazlina Shaari, Univ. Malaysia Sarawak, Malaysia

- 14:15 - 15:30** **[1B-2] Biomass-Material**
- 1B-2-1S** **The Development of Bio-based Polymers for Notebook PC**
Koichi Kimura, Yuzo Horikoshi, Takafumi Hashitani, Kouta Nishii, Fujitsu Laboratories, Japan
- 1B-2-2S** **Sony's Activity for Vegetable-based Plastic**
Hiroyuki Mori, Hiroshi Ooki, Tsutomu Noguchi, Shin-ichiro Yamada, Noritaka Sato, Takeshi Horie, Yuko Fujihira, Sony Corp., Japan
- 1B-2-3S** **Thermo-reversibly Cross-linked Biomass-plastic Acting Rewritable Shape Memory**
Kazuhiko Inoue, Midori Yamashiro, Masatoshi Iji, NEC, Japan
- 1B-2-4S** **Kenaf Fiber-Reinforced Biomass-Plastics Used for Electronic Products**
Shin Serizawa, Kazuhiko Inoue, Masatoshi Iji, NEC, Japan
- 1B-2-5S** **Life-cycle Assessment of LSI Packaging Embossed Tape Made from Bio-based Polymer**
Yuzo Horikoshi¹, T. Hashitani¹, M. Kutami¹, K. Yazaki², Yukio Ando², ¹Fujitsu Lab., Japan, ²Fujitsu Ltd., Japan
- 15:45 - 17:20** **[1B-3] Eco-Material**
- 1B-3-1F** **Ecomaterial Development Through Sustainability Management**
Ying Wang, Hong X. Nguyen, Ryoichi Yamamoto, The Univ. of Tokyo, Japan
- 1B-3-2F** **Closed Material Recycling for Plastics from Wasted Appliances**
Yohei Kawaguchi, Yoshitake Sumida, Yoko Fukushima, Hiroshi Kosaka, Sharp Corp., Japan
- 1B-3-3S** **The LCI Analysis for the Material Design Guideline to Promote the ABS Recycling**
Suguru Yagi¹, Makoto Furuhashi¹, Yasuhito Inagaki¹, Yasuyuki Yamagiwa², Takaaki Susuki³, Koji Marutami³, ¹Sony Corp., Japan, ²Tokyo Zokei Univ., Japan, ³UMG ABS, Ltd., Japan
- 1B-3-4S** **Formaldehyde Removal System with Corona Discharge and Manganese Oxide**
Takuya Furuhashi, Akira Shiga, Shiro Takeuchi, Yoji Fujita, Mitsubishi Electric Corp., Japan
- 1B-3-5S** **Effect on Reduction of Harmful Substances by Using Porous Material with Meso-pores**
Osamu Watanabe^{1,2}, Hiroshi Fukumizu¹, Hideki Ishida², ¹INAX Corp., Japan, ²Tohoku Univ., Japan
- 10:30 - 11:45** **[1C-1] System Design for Remanufacturing**
- 1C-1-1F** **Managing the Remanufacturing Organization for an Optimal Product Life Cycle**
Henning Hermansson¹, Erik Sundin², ¹Mälardalen Univ., Sweden, ²Linköping Univ., Sweden
- 1C-1-2F** **Material and Process Complexity - Implications for Remanufacturing**
Johan Östlin, Linköping Univ., Sweden
- 1C-1-3F** **Evaluating Costs and Environmental Impacts of Production Policies in Recycling System**
Akihiko Mizuno, Katsuhiko Takahashi, Katsumi Morikawa, Hiroshima Univ., Japan
- 14:15 - 15:30** **[1C-2] Modular Design**
- 1C-2-1F** **Module-Based Model Change Planning in Consideration of Environmental Impact and Customer Satisfaction**
Megumi Watanabe, Shozo Takata, Waseda Univ., Japan
- 1C-2-2F** **Development of Modular Design Method for Inverse Manufacturing**
Shinsuke Kondoh¹, Atsushi Shimabukuro², Yasushi Umeda³, ¹National Inst. of Advanced Industrial Science and Technology, Japan, ²Olympus Corp., Japan, ³Osaka Univ., Japan
- 1C-2-3F** **Physical Life Design of Reusable Unit with Consideration of Time Series Behavior of Its Value and Demand**
Susumu Okumura, Yutaka Sakabe, Univ. of Shiga Prefecture, Japan
- 15:45 - 16:50** **[1C-3] Design for Disassembly I**
- 1C-3-1S** **Some Proposal and Examples of Marking for Easy Sorting and Separation for the Purpose of DFD**
Kousuke Shimamura, Tetsuya Takahashi, Kiyoshi Ueno, Katsunori Ishii, Yoshihiro Tanabe, Hideki Mori, Kazuyuki Iimura, Mitsubishi Electric Corp., Japan
- 1C-3-2F** **DfR and DfD Applied to Electrical and Electronic Equipments Resulting Environmental Life Cycle Performance - A Case Study for Portugal**
Eduardo Santos, Paulo Ferrão, Universidade Técnica de Lisboa, Portugal
- 1C-3-3F** **Design for Product-Embedded Disassembly with Maximum Profit**
Shingo Takeuchi, Kazuhiro Saitou, Univ. of Michigan, USA
- 17:05 - 18:10** **[1C-4] Design for Disassembly II**
- 1C-4-1S** **Proposal of Ubiquitous Disassembly System for Realizing Reuse and Recycling in Cooperative Distributed Facilities**
Toshitake Tateno¹, Shinsuke Kondoh², ¹Tokyo Metropolitan Univ., Japan, ²Advanced Industrial Science and Technology, Japan
- 1C-4-2F** **SiDDatAS - Analysis and Economic Evaluation of Alternative Disassembly System Configurations**
Christoph Herrmann, Tobias Luger, Martin Ohlendorf, Technical Univ. at Braunschweig, Germany

- 1C-4-3F Case Study of a Recycling Parameter Calculation Tool Based on DFD (Second Report)**
Katsumi Fujisaki, Mitsubishi Electric Corp., Japan
- 10:30 - 11:45 [1D-1] Tool/Method for DfE I**
- 1D-1-1F Designers' Utilization of and Requirements on Design for Environment (DfE) Methods and Tools**
Mattias Lindahl, Linköping Univ., Sweden
- 1D-1-2F What Could Be Learned from the Utilization of Design for Environment within Manufacturing Companies?**
Mattias Lindahl, Olof Hjelm, Erik Sundin, Leif Thuresson, Linköping Univ., Sweden
- 1D-1-3F Withdraw Due to No Paper Submission**
- 14:15 - 15:00 [1D-2] Tool/Method for DfE II**
- 1D-2-1S Development of the Evaluation Tool that Integrate "Design for Environment" and "Eco-efficiency" at Hitachi.**
Osamu Namikawa, Hitachi, Ltd., Japan
- 1D-2-2S The Methodology for Selecting Product at Conceptual Design**
P. Boonkanit, A. Apikajornsin, Kasembundit Univ., Thailand
- 1D-2-3S Toxic Potential Indicator (TPI) for Material Assessment in Automobile Industry**
Jahau Lewis Chen¹, Cheng Ming Chen¹, Sheng-Bou Yen², Jesse Y. R. Chiou³, S. F. Yeh³, Chen-Yu Liu³, ¹National Cheng Kung Univ., Taiwan, ²Chia Nan Univ. of Pharmacy and Science, Taiwan, ³Ford Lio Ho Motor Company, Taiwan
- 15:15 - 16:50 [1D-3] Tool/Method for DfE III**
- 1D-3-1S Measuring Environmental Performance in the Early Phases of Product Design Using Life Cycle Assessment**
Julian Maruschke¹, Bernd Rosemann², ¹BMW Group, ²Univ. Bayreuth, Germany
- 1D-3-2S Implementation of Product Assessment in a Generic Mechanical Parts Manufacturer**
Takayuki Fukuzawa¹, Manabu Yamamoto¹, Tomoyuki Hata², Ken Asaoka², Masahito Aizawa², ¹Tochigiya Co., Ltd., Japan, ²Environmental Management for Sustainability, Inc., Japan
- 1D-3-3S A Proposal of Web-based Infrastructure for Integrating Element Technologies of Life Cycle Engineering**
Yoshiaki Shimizu, Takahiro Kawai, Yosuke Inaba, Yuji Motoki, Toyohashi Univ. of Technology, Japan
- 1D-3-4F A Method of Evaluating Artifacts' Possibility for Sustainable Society**
Keita Hashimoto, Toshiharu Taura, Kobe Univ., Japan
- 1D-3-5F Sustainable Design Method Focusing on Latent Function**
Kazusa Minami¹, Yukari Nagai¹, Toshiharu Taura², ¹Japan Advanced Inst. of Science and Technology, Japan, ²Kobe Univ., Japan
- 10:30 - 11:50 [1E-1] Renewable Energy and New Energy Technology I**
- 1E-1-1F Power Consumption Monitoring System for Personal Computers by Analyzing Their Operating States**
Eiji Hirao, Shigeyuki Miyamoto, Masahiro Hasegawa, Hiroo Harada, NEC, Japan
- 1E-1-2S Independent System for Regenerating Nature Using Sustainable Energy and Water**
Motoo Yoshimura, Hiroko Maenaka, Tottori Univ. of Environment Studies, Japan
- 1E-1-3S Hydrogen Generation Using Supercritical Water**
Syunji Ichikawa, Haru-Hisa Uchida, Hirohisa Uchida, Tokai Univ., Japan
- 1E-1-4F Development of Environmentally Conscious Photo-Synthetic/Metabolic Bio Fuel Cell**
Yuji Furukawa, Tokyo Univ. of Agriculture and Technology, Japan
- 14:15 - 15:35 [1E-2] Renewable Energy and New Energy Technology II**
- 1E-2-1F Ecodesign and Renewable Energy: How to Integrate Renewable Energy Technologies into Consumer Products**
Ana Mestre¹, Jan Carel Diehl², ¹Instituto Nacional de Engenharia e Tecnologia Industrial, Portugal, ²Delft Univ. of Technology, The Netherlands
- 1E-2-2F Effect of Metal Coating on FRP Blade Lightning Failure for Wind Power Generator**
H. Sakamoto¹, A. Takebayashi¹, N. Kubo², Y. Hashimoto³, I. Suzuki⁴, Y. Ueda⁵, M. Hanai⁶, ¹Kochi Univ. of Technology, Japan, ²Ishikawajima-Harima Heavy Industries Co. Ltd., Japan, ³JFE Engineering Corp., Japan, ⁴Daioh Construction Co. Ltd., Japan, ⁵Mitsubishi Heavy Industries, Ltd., Japan, ⁶TMT&D Corp., Japan
- 1E-2-3S A Development of "Energy Livelihood Sphere" by New Energy -Case Study in Makuhari Baytown-**
Satoko Nasu, Kazuo Maeno, Chiba Univ., Japan
- 1E-2-4S Effect of Core Design on Efficiency in Wind Power Generation**
H. Sakamoto, M. Ozaki, Y. Nishimura, Kochi Univ. of Technology, Japan

- 15:50 - 17:30** **[1E-3] Recycling System/Technology**
- 1E-3-1F** **Current Studies on Ultra-long-life Fatigue Properties for Metallic Materials Mainly Focusing to Bearing Steels - Fundamental Fatigue Data Required to EcoDesign of Mechanical Structures -**
Tatsuo Sakai¹, Yosuke Sato², ¹Ritsumeikan Univ., Japan, ²EMIC Corp. Ltd., Japan
- 1E-3-2S** **Recycle of Inorganic Wastes by Hydrothermal Technology**
Mikihiro Oida¹, Hiroki Maenami¹, Norifumi Isu¹, Emile H. Ishida², ¹INAX Corp., Japan, ²Tohoku Univ., Japan
- 1E-3-3S** **Material Recycling of Waste Plastics for Home Appliances**
Yuichi Matsuo¹, Akihiro Fujita¹, Muneaki Mukuda¹, Yasuto Iseki¹, Shinobu Ogasawara¹, Tsukasa Takagi¹, Tetsuo Ishii², ¹Mitsubishi Electric Corp., Japan, ²Nihon Kentetsu Corp., Japan
- 1E-3-4S** **Material Recycling Technologies for Closed-Loop Recycle System of Cross Flow Fan**
Tsukasa Takagi, Syuichi Iwata, Yasuto Iseki, Mitsubishi Electric Corp., Japan
- 1E-3-5S** **Recycling of Thin Film Solar Cell Modules - LCA and ECO2 Case Study**
Maiya Shibasaki, Niels Warburg, Peter Eyerer, Univ. of Stuttgart, Germany
- 1E-3-6S** **Optimum Design of Substitute Lumbers Molded from Fiber Waste**
Wataru Kikuno¹, Teruo Kimura¹, Seiji Hatta¹, Kenzo Kadokura², ¹Kyoto Inst. of Technology, Japan, ²Kadokura Trading Company Co.,LTD, Japan
- 9:00 - 10:15** **[2A-1] Eco-SCM I**
- 2A-1-1F** **Environment-Conscious Production Planning Mechanism for Supply Chain Management**
Koji Okuhara¹, Eri Domoto², Nobuyuki Ueno¹, Hiroaki Ishii², ¹Prefectural Univ. of Hiroshima, Japan, ²Osaka Univ., Japan
- 2A-1-2F** **A Multi-Objective Reconfiguration Method of Supply Chains Through Discrete Event Simulation**
Hitoshi Komoto, Tetsuo Tomiyama, Menno Nagel, Sacha Silvester, Han Brezet, Delft Univ. of Technology, The Netherlands
- 2A-1-3F** **Adaptive Production Planning by Information Sharing for Reverse Supply Chain**
Takeshi Murayama, Mitsunobu Yoda, Toru Eguchi, Fuminori Oba, Hiroshima Univ., Japan
- 10:35 - 11:35** **[2A-2] Eco-SCM II**
- 2A-2-1F** **Identification of Problems Associated with Exchanging Information Across a Product Supply Chain for Chemicals Risk Management**
Toshijiro Ohashi¹, Kazutoshi Kasagi², Toshio Niihara³, ¹Hitachi, Ltd., Japan, ²JEMAI, Japan, ³NEDO, Japan
- 2A-2-2F** **Case Studies of Recent Trends in Green Procurement at Various Companies**
Kosuke Masuzawa, Seiko Epson Corp., Japan
- 2A-2-3S** **Environmental Impact of Using ICT in Industrial Sector -Effect of Environmental Load Reduction by Using SCM Techniques-**
Takeshi Origuchi¹, Atsushi Ishikawa¹, Shiro Nishi¹, Jun Fujimoto², ¹Nippon Telegraph and Telephone Corp., Japan, ²Univ. of Tokyo, Japan
- 15:45 - 17:25** **[2A-3] Life Cycle Design**
- 2A-3-1F** **Integration of Life Cycle Design in Industrial Practice: Problems and Solutions**
Udo Hermenau, Sonja Hansen, Eberhard Abele, Darmstadt Univ. of Technology, Germany
- 2A-3-2F** **Environmental Assessment and Life Cycle Collaboration Integrated in E-Business Solutions**
Benjamin Kührke¹, Stefan Feickert¹, Eberhard Abele¹, Frank-Dieter Cleste², ¹Darmstadt Univ. of Technology, Germany, ²Technidata AG, Germany
- 2A-3-3F** **An Integrated Approach for the Development and Management of Environmentally Conscious Products**
Mario Fargnoli, Univ. of Rome, Italy
- 2A-3-4F** **Product Life Cycle Design - A Model of Integrating Environmental Aspects into Product Design and Development Process at a Swedish Industry: Adaptive Feedback Approach**
Julija Jeganova, Lund Inst. of Technology
- 9:00 - 10:15** **[2B-1] Service Engineering I**
- 2B-1-1F** **Design for Functional Sales - A Case Study of Forklift Trucks at BT Industries**
Erik Sundin, Martin Larsson, Anders Nielsen, Linköping Univ., Sweden
- 2B-1-2F** **Life Cycle Simulation for Analyzing Product Service Systems**
Hitoshi Komoto, Tetsuo Tomiyama, Menno Nagel, Sacha Silvester, Han Brezet, Delft Univ. of Technology, The Netherlands
- 2B-1-3F** **MVC (Model for Balancing Values and Costs): A Fundamental Model to Design Environmentally Conscious Services**
Tomohiko Sakao¹, Yoshiki Shimomura², ¹Darmstadt Univ. of Technology, Germany, ²Tokyo Metropolitan Univ., Japan

- 10:30 - 11:35** **[2B-2] Service Engineering II**
- 2B-2-1F** **A Novel Design Methodology for Services to Increase Value Combining Service and Product Based on Service Engineering**
Tomohiko Sakao¹, Yoshiki Shimomura², ¹Darmstadt Univ. of Technology, Germany, ²Tokyo Metropolitan Univ., Japan
- 2B-2-2F** **Methodic Eco-design Considering Consumer Needs and Requirements - Case Study with Computer Mouse**
Christoph Herrmann¹, Marek Stachura², Heejeong Yim¹, ¹Technical Univ. of Braunschweig, Germany, ²Austria
- 2B-2-3F** **Withdraw due to no paper submission**
- 2B-2-4S** **The Evaluation Model for the Package Design of Green Products Based on Integrating the Consumer's Viewpoint**
Chen-Fu Chen, Hsin-Yi Wang, Ming Chuan Univ., Taiwan
- 15:45 - 17:05** **[2B-3] LCA for EcoDesign**
- 2B-3-1S** **Development of LCA Database Based on an Economic Input-Output Table**
Yoshinori Kobayashi, Naohiko Oyasato, Masaaki Yamamoto, Hideki Kobayashi, Toshiba Corp., Japan
- 2B-3-2S** **Strategy and Value Oriented Life Cycle Assessment: The Case of Samsung Techwin Co.**
Myung-Hwi Kang¹, Sun-Young Kim¹, Jun-Ha Park², ¹Eco-Frontier Co., Korea, ²Samsung Techwin Co., Korea
- 2B-3-3F** **Fuzzy Eco-Design Product Development by Using Quality Function Deployment**
Tsai-Chi Kuo¹, Hsin-Hung Wu², ¹Ming Hsin Univ. of Science and of Technology, Taiwan, ²National Changhua Univ. of Education, Taiwan
- 2B-3-4F** **Integrated Product Policy and Distributed Supplier Structures: SME and Sound LCA Data in Conflict**
Ferruccio Mandorli¹, Michele Germani¹, Harald E. Otto², ¹The Univ. of Ancona, Italy, ²The Univ. of Tokyo, Japan
- 9:00 - 10:15** **[2C-1] Remanufacturing I**
- 2C-1-1F** **On a REUSE Program - Implementation of IEC 62309(2004): Dependability of Products Containing Reused Parts - Requirements for Functionality and Tests**
Takeshi Natsume, Bunkyo Univ., Japan
- 2C-1-2F** **Network Agent's Advice for Promoting the Reuse of Mechanical Parts**
Hiroyuki Hiraoka, Norishige Iwanami, Chuo Univ., Japan
- 2C-1-3F** **A Closed-loop Manufacturing System Focusing on Reuse of Components**
Shinsuke Kondoh¹, Yoshihito Nishikiori², Yasushi Umeda³, ¹National Inst. of Advanced Industrial Science and Technology, Japan, ²Tokyo Metropolitan Univ., Japan, ³Osaka Univ., Japan
- 10:30 - 11:45** **[2C-2] Remanufacturing II**
- 2C-2-1F** **Case Study Analysis of Three Toner Cartridge Remanufacturers**
Erik Sundin, Johan Östlin, Linköping Univ., Sweden
- 2C-2-2F** **Design for Recycling and Remanufacturing of Fuel Cells**
Stefan Freiberger, Univ. of Bayreuth, Germany
- 2C-2-3F** **A Robust Description and Tool for Remanufacturing: A Resource and Energy Recovery Strategy**
Winifred L. Ijomah¹, Stephen J. Childe², Geoffrey P. Hammond¹, Christopher A. McMahon¹, ¹Univ. of Bath, UK, ²Univ. of Exeter, UK
- 15:45 - 17:10** **[2C-3] Energy Conservation**
- 2C-3-1S** **Energy Saving Refrigeration System for Supermarket**
Fumitake Unezaki¹, Youichi Anzai², Takashi Ikeda¹, Fumio Matsuoka¹, ¹Mitsubishi Electric, Japan, ²Nihon Kentetsu, Japan
- 2C-3-2S** **Energy Conservation and CO₂ Reduction by Conversion of Paper Document to Electronic Document Using High Speed Color Multifunction Device with Document Flow Software**
Akinori Inoue, Kouji Masuda, Fuji Xerox Co. Ltd., Japan
- 2C-3-3S** **Alignment of Greenhouse Gas Reduction Activities with Business Strategy**
Ronald E. Meissen¹, Patrick D. Eagan², ¹Baxter Healthcare Corp., USA, ²Univ. of Wisconsin, USA
- 2C-3-4S** **A Study of Soft-Switching PWM DC/DC Converter for Efficiency Improvement**
Kenichi Tamura, Hiroyasu Kisaichi, Satoshi Nagai, Mitsubishi Electric Corp., Japan
- 2C-3-5F** **Prospects for an Environmentally Sustainable ICT Society**
Mitsutaka Matsumoto¹, Tetsuya Tamura¹, Jun Fujimoto², ¹NEC Corp., Japan, ²The Univ. of Tokyo, Japan
- 9:00 - 10:20** **[2D-1] Environmental Load Reduction in Asia (Special Theme)**
- 2D-1-1S** **The Study of Greenhouse Gases Reduction in Residential and Commercial Sector in Taiwan**
Fei-Chiao Yang, Nan-Hwa Chen, Cheng-Hung Lee, Huei-Wei Lo, Safety and Health of Industrial Technology Research Inst., Taiwan

- 2D-1-2F Factor Decomposition Analysis of 1985-90-95 Linked Environmental Household Accounts Using Input-Output Table**
Ayu Washizu¹, Miki Shinozaki², Satoshi Nakano³, ¹Waseda Univ., Japan, ²The Foundation for Erath Environment, Japan, ³Keio Univ., Japan
- 2D-1-3F Developmental Research for the Monitoring System of Spatial Distribution of Impurity Particle in the Water**
Fumitake Kato¹, Tomoko Kassai¹, Isao Shimizu², ¹Ibaraki National College of Technology, Japan, ²Research Inst. of Advanced Technology, Japan
- 2D-1-4S "Bio-Cycle" System of AJINOMOTO Group Environmentally-conscious Production Process of Amino Acids**
Kazuhiko Kunita, Ajinomoto Co. Inc., Japan
- 10:35 - 12:00 [2D-2] Design for Environment in Asia (Special Theme)**
- 2D-2-1F The Environmental Design Review Towards the International Regulations**
Mario Fargnoli¹, Tomohiko Sakao², ¹Univ. of Rome, Italy, ²Darmstadt Univ. of Technology, Germany
- 2D-2-2S The Study of Designing for Environment on Liquid Crystal Display**
Ching-Chih Lin, Mei-Hwa Chung, Zen Wang, Industrial Technology Research Inst., Taiwan
- 2D-2-3S International Green Purchasing: A Strategy for Sustainable Development**
Steven Sundstrom, Kyoto Univ., Japan
- 2D-2-4S Product Life Cycle Simulation System for EcoDesigners**
Kazuhiro Sakita¹, Tatsuo Mori², ¹Soka Univ., Japan, ²Sharp Corp., Japan
- 2D-2-5S Environmental Impact Evaluation of Zero Emission System: A Case Study of Cement Production**
Kohei Morimoto, Ryoichi Yamamoto, Tomonori Honda, Ying Wang, Hong X. Nguyen, The Univ. of Tokyo, Japan
- 15:45 - 17:25 [2D-3] Recycling in Asia I (Special Theme)**
- 2D-3-1F The WEEE Challenge to China**
PanFeng Chen, Huawei Technologies Co. Ltd.
- 2D-3-2F Eco-design Activities in Taiwan**
Jahau Lewis Chen¹, Li-Hsing Shih¹, Jyh-Shing Yang², Thomas Chen², ¹National Cheng Kung Univ., Taiwan, ²ITRI, Taiwan
- 2D-3-3F Recycling of Cable Plastics - A Life Cycle Assessment of Several Different Alternatives**
Mattias Lindahl, Mats Winsnes, Linköping Univ., Sweden
- 2D-3-4F EcoDesign of Multilateral Recycling Systems in Asia - 1st Report: Concept -**
Jun Fujimoto¹, Yasushi Umeda², Shinsuke Kondoh³, ZhiDong Li⁴, Kazuhiko Nakamura¹, Masayuki Kuwatani¹, ¹The Univ. of Tokyo, Japan, ²Osaka Univ., Japan, ³Advanced Manufacturing Research Inst., Japan, ⁴Nagaoka Univ. of Technology, Japan
- 9:00 - 10:55 [2E-1] Soldering Technology I (IMS-PJ)**
- 2E-1-1F Overall Technological Results of IMS-EFSOT Japanese Project --- Environmental Impact of Lead-Free Soldering ---**
Masahide Okamoto¹, Koji Serizawa¹, Hiroshi Satoh², Momoko Chiba³, Takejiro Takamatsu⁴, Norihiro Itsubo⁵, Atsushi Inaba⁶, ¹Hitachi Ltd., Japan, ²Tohoku Univ., Japan, ³Juntendo Univ., Japan, ⁴National Inst. for Environmental Studies, ⁵Musashi Inst. of Technology, Japan, ⁶National Inst. of Advances Industrial Science and Technology, Japan
- 2E-1-2F Withdraw Due to No Paper Submission**
- 2E-1-3F Influences of Impurities on Wave Soldering Properties for Sn-9Zn Solders**
Makoto Miyazaki¹, Shigeyuki Ogata¹, Akio Yoshida², Yoshihiro Nishiyama², Hiroyuki Tanaka³, Masanobu Akanuma³, Naoki Katayama³, ¹Nagano OKI Electric Co., Ltd., Japan, ²OKI Electric Industry Co., Ltd., Japan, ³Hokkaido Industrial Research Inst., Japan
- 2E-1-4S Considerations on Printed Wiring Board Design for Fatigue Reliability of Pb-free Soldered Leadless Packages**
Shunichi Kikuchi, Osamu Higashi, Mitsutaka Yamada, Noritsugu Ozaki, Fujitsu Limited, Japan
- 2E-1-5F Thermal Fatigue Life of Sn-2Ag Solder Bump with Small Al Addition**
Koji Serizawa¹, Kenji Yoshimi¹, Masahide Okamoto¹, Toshio Narita², Junichi Tanaka², ¹Hitachi Ltd., Japan, ²Hokkaido Univ., Japan
- 15:45 - 17:35 JIEP Workshop**
- JIEP-1 An Ultra-Thin Decoupling Capacitor with SrTiO₃ Thin Film on Polyimide**
Shintaro Yamamichi, Akinobu Shibuya, NEC Corp., Japan
- JIEP-2 Study on Lead-Free Electroceramics - Piezoelectric Materials Focusing on Crystalline Orientation -**
Fumio Uchikoba, Nihon Univ., Japan

- JIEP-3 A Novel Evaluation Technique for Hazardous Substances in Electronic Components and Circuit Board Assemblies Complying with the EU-RoHS Directive**
Michiko Noguchi¹, Kenji Nomura¹, Kazuko Narita¹, Mitsuo Ozaki¹, Osamu Ueda¹, Yasuo Yamagishi², ¹Fujitsu Laboratories Ltd., Japan, ²Fujitsu Analysis Lab. Ltd., Japan
- JIEP-4 Minimal Manufacturing Process by Using a Super Fine Inkjet System**
Kazuhiro Murata¹, Hiroko Sagisaka¹, Kazuo Shimizu¹, Yorishige Matsuba², Hiroshi Yokoyama¹, ¹AIST, Japan, ²Harima Chem. Inc., Japan
- JIEP-5 Drastic Reduction of Chemical Consumption in Wet Cleaning Process for Semiconductor Manufacturing by Using Functional Water**
Hiroshi Kurobe, Hiroshi Morita, Kurita Water Industries Ltd., Japan
- JIEP-6 A Novel Approach to Disassembly of Joined Interface**
Naoe Hosoda¹, Tadatomo Suga², ¹National Inst. for Materials Science, Japan, ²The Univ. of Tokyo, Japan
- 9:00 - 10:45 [3A-1] Life Cycle Scenario and Simulation/Lifetime Estimation**
- 3A-1-1S Development of Life Cycle Scenario Description Support Tool**
Toshihiko Torii¹, Yasushi Umeda², Sinsuke Kondoh³, ¹Tokyo Metropolitan Univ, Japan, ²Osaka Univ., Japan, ³AIST, Japan
- 3A-1-2F A Simulation-based Decision Support Methodology for Reuse Business**
Hideki Kobayashi, Toshimitsu Kumazawa, Toshiba Corp., Japan
- 3A-1-3F Proposal of Decision Support Method for Life Cycle Strategy by Estimating Value and Physical Lifetimes - Case Study -**
Yasushi Umeda¹, Takayuki Daimon², Shinsuke Kondoh³, ¹Osaka Univ., Japan, ²Tokyo Metropolitan Univ., Japan, ³AIST, Japan
- 3A-1-4F Lifetime Estimation for Wire Bond Interconnections Using Life-Cycle-Information Modules with Implemented Models**
A. Middendorf¹, H. Reichl¹, H. Griese², ¹Technical Univ. Berlin, Germany, ²Fraunhofer IZM, Germany
- 3A-1-5S Reliability Prediction of Re-Used Electronics Circuit Boards**
Shuuichi Ohta, Takao Sato, RICOH COMPANY LTD., Japan
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Keiji Masui, National Inst. of Advanced Industrial Science and Technology
- 3A-2-2F The Impact of End-of-Life Vehicle Recycling Law on Automobile Recovery in Japan**
Yasuhiko Ogushi, Milind Kandlikar, The Univ. of British Columbia, Canada
- 3A-2-3F Product Architect, a New Approach for Transparency and Controlling of the End-of-Life Performance**
Christoph Herrmann¹, Adel Frad¹, Ioan Revnic², Tobias Luger¹, ¹Technical Univ. Braunschweig, Germany, ²Kerp-Engineering GmbH
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Sonja Hansen, Jan Großmann, Eberhard Abele, Herbert Birkhofer, Technical Univ. of Darmstadt, Germany
- 3B-1-2F The Intricacy of Eco-Building Design**
A. Vakili Ardebili, A. H. Boussabaine, The Univ. of Liverpool, UK.
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Lee Hui Mien¹, Lu Wen Feng², Robert Gay Kheng Leng¹, ¹Nanyang Technological Univ., Singapore, ²Singapore Inst. of Manufacturing Technology, Singapore
- 3B-2-2F The Study of Integrating Su-Field Analysis Modeling with Eco-Innovative Concept for Product Design**
Hsiang-Tang Chang, Shu-Te Univ., Taiwan
- 3B-2-3F ECODESIGN in the Electronics Industry - Achieving Legal Compliance with the EU-directives and Environmentally Improving Products by Using the New EEE-PILOT**
Wolfgang Wimmer¹, Rainer Pamminger¹, Marek Stachura², Ratko Grab³, ¹Vienna Univ. of Technology, Austria, ²Austrian Centre of Excellence for Electronic Scrap Recycling & Sustainable Product Design, Austria, ³Philips Austria, Austria
- 3B-2-4F An Eco-Innovative Tool by Integrating FMEA and TRIZ Methods**
Sheng-Bou Yen¹, Jahau Lewis Chen², ¹Chia Nan Univ. of Pharmacy and Science, Taiwan, ²National Cheng Kung Univ., Taiwan

- 3B-2-5F An Integrated Framework for Implementing Sustainable Product Development**
Sami Kara¹, Ina Honke², Hartmut Kaebernick¹, ¹The Univ. of New South Wales, Australia, ²Technical Univ. of Hamburg, Germany
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- 3B-3-1F Inter-regional Waste Input-Output Linear Programming Model and Its Application to the Japanese Regions**
Yasushi Kondo¹, Shigemi Kagawa², Shinichiro Nakamura³, ¹Waseda Univ., Japan, ²Tohoku Univ., Japan, ³Nagoya Univ., Japan
- 3B-3-2F New Trend of Corporate Strategies of Waste Management Business**
Shunsuke Kurosaka, Shin'ya Nagasawa, Waseda Univ., Japan
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Soyoko Yamaguchi, Masakazu Ueno, Yoshihiko Sugioka, INAX Corp., Japan
- 3C-1-2S Micro-Sheath Heated Secateur (Pruning Shear) for Prevention of Contagious Plant Diseases**
Haruka Oouchi¹, Takeshi Morita², ¹E. G. S. Co. Ltd., Japan, ²Nakajima Doko Corp., Japan
- 3C-1-3S High Efficient Motor Drive Technology for Refrigerator**
Masaaki Yabe, Kazunori Sakanobe, Mamoru Kawakubo, Mitsubishi Electric Corp., Japan
- 3C-1-4S "SATIS"- Development of Low Environmental Impact and High Performance Products**
Mariko Okada, Yutaka Ando, INAX Corp., Japan
- 3C-1-5F Overcoming Complexity and Tradition-Related Shortcomings of Enabling Technologies: Solutions for Advanced Information Displays in LCA**
Harald E. Otto¹, Fumihiko Kimura¹, Karl G. Mueller², ¹The Univ. of Tokyo, Japan, ²Siemens VDO Automotive, Germany
- 10:40 - 11:35 [3C-2] Life Cycle Cost and Management**
- 3C-2-1S Evaluating Eco-Design Projects with 3D-QFDE Method and Life Cycle Cost Estimation**
Li-Hsing Shih, Bi-Shuen Liu, National Cheng Kung Univ., Taiwan
- 3C-2-2S Climate Impact of Material Consumption in the Health Care Sector - Case Study Region Scania**
Mårten Karlsson, Dolores Pigretti-Öhman, Lund Univ., Sweden
- 3C-2-3F Modeling the Effects of Maintenance on Product Life Cycle Management**
Tomoyuki Hata¹, Fumihiko Kimura², ¹Environmental Management for Sustainability, Inc., Japan, ²The Univ. of Tokyo, Japan
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Nobuyuki Kimata¹, Kunio Takata², ¹Tottori Univ. of Environmental Studies, Japan, ²ITN, Japan
- 3C-3-2S Roadmap of Green-Oriented Technology in PCB Industry Within Asia-Pacific**
Thomas JM Chen, Industry Technology Research Inst., Taiwan
- 3C-3-3F Approaches Towards Sustainable Use and Substitution of Metals in Electronics**
Otmar Deubzer¹, Hansjörg Griese¹, Herbert Reichl², ¹Fraunhofer IZM, Germany, ²Technical Univ. Berlin, Germany
- 3C-3-4F Global Sustainable Development and Technological Innovations - Experiences from Lead-free Transition -**
Hansjörg Griese¹, Lutz Stobbe¹, Jutta Mueller¹, Otmar Deubzer¹, Andreas Middendorf², ¹Fraunhofer IZM, Germany, ²Technical Univ. Berlin, Germany
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- 3D-1-1S Conflicts between Eco-design and Usability of Refrigerators**
Kazuhiro Fukuyo, Kuniko Fujita, Yamaguchi Univ., Japan
- 3D-1-2S Publication of the Eco-efficiency Handbook in 2004 Eco-efficiency Project in Japan**
Taeko Aoe¹, Seiichi Kurihara², Osamu Namikawa³, Tetsuya Takahashi⁴, Chie Nakaniwa⁵, ¹Matsushita Electric Industrial Co., Ltd., Japan, ²Fujitsu Ltd., Japan, ³Hitachi, Ltd., Japan, ⁴Mitsubishi Electric Corp., Japan, ⁵JEMAI, Japan
- 3D-1-3S Measuring Information and Communication Technologies (ICT) Benefits and Environmental Impact -Joint Project Exploring Development of Common Eco-efficiency Evaluation**
Yasunari Matsuno¹, Taeko Aoe², Shinkichi Ebata³, Takafumi Hashitani⁴, Yuji Ito⁵, Hideki Kobayashi⁶, Shigeyuki Miyamoto⁷, Norihiro Mochizuki⁸, Shiro Nishi⁹, Takayuki Nishi³, Takeshi Origuchi⁹, Takashi Sawada⁹, Masahiro Suda⁷, Mitsuakiyo Tan³, Chie Nakaniwa¹⁰, ¹The Univ. of Tokyo, Japan, ²Matsushita Electric Industrial Co., Ltd., Japan, ³Hitachi Ltd., Japan, ⁴Fujitsu Laboratories Ltd., Japan, ⁵Fuji Xerox Co., Ltd., Japan, ⁶Toshiba Co., Japan, ⁷NEC Co., Japan, ⁸Canon Inc., Japan, ⁹NTT Co., Japan, ¹⁰JEMAI, Japan
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- 3D-2-1F Evaluation Methods and Applications of Factor X Indicator for Realization of a Sustainable Society**
Tetsuya Takahashi¹, Kiyoshi Ueno¹, Katsunori Ishii², ¹Mitsubishi Electric Corp., Japan, ²Nihon Kentetsu Co., Ltd., Japan

- 3D-2-2F Eco-efficiency Evaluation of the Eco-industrial Cluster**
Allen H. Hu¹, Sin-How Shih², Chia-Wei Hsu¹, Chao-Heng Tseng¹, ¹National Taipei Univ. of Technology, Taiwan, ²Chang Hwa Bank
- 3D-2-3F The Producer- and Consumer-based Eco-Efficiencies and Their Application to Ecodesign**
Pil-Ju Park, Kiyotaka Tahara, Atsushi Inaba, National Inst. of Advanced Industrial Science and Technology
- 3D-2-4F Modified Ecological Footprint Evaluation to Include Resource Depletion**
Hong X. Nguyen, Ying Wang, Kohei Morimoto, Ryoichi Yamamoto, The Univ. of Tokyo, Japan
- 13:00 - 14:15 [3D-3] Eco-Efficiency/EcoDesign Impact III**
- 3D-3-1F EcoBenchmarking for All**
Casper Boks, Jan Carel Diehl, Delft Univ. of Technology, The Netherlands
- 3D-3-2F Multiple Environmental Benchmarking Data Analysis and Its Implications for Design: a Case Study on Packaging**
Renee Wever, Casper Boks, Hein Van Es, Ab Stevels, Delft Univ. of Technology, The Netherlands
- 3D-3-3F Ecodesign Operationalization and Company Performance in Electronics Industry**
Oriol Pascual, Ab Stevels, Delft Univ. of Technology, The Netherlands
- 9:00 - 10:30 [3E-1] Legislation for EcoDesign (Special Theme)**
- 3E-1-1S Customization of the Toxic Potential Indicator for Japanese Regulation**
Masahisa Fujino¹, Tadatomo Suga¹, Hideyuki Hamano², ¹The Univ. of Tokyo, Japan, ²Canon, Japan
- 3E-1-2F Rapid Screening Method for Brominated Flame Retardants and Hexavalent Chromium by Time-of-Flight Secondary Ion Mass Spectrometry (TOF-SIMS)**
Jiro Naka, Noriko Hirano, Hiroshi Kurokawa, Junji Kobayashi, Yasuo Kawashima, Mitsubishi Electric Corp., Japan
- 3E-1-3F Directives and Legislations-Recycling and Reuse of Products**
Maiya Shibusaki, Niels Warburg, Peter Eyerer, Univ. of Stuttgart, Germany
- 3E-1-4F Chemical Substance Management for EEE - Evaluation Method of Chemical Data Contained in Parts**
Noriyasu Ninagawa, Noriaki Yamamoto, Takaaki Kumazawa, Masanori Ikuzawa, Yasuhiro Hamatsuka, Hitachi, Ltd., Japan
- 13:00 - 13:45 [3E-2] Recycling in Asia II (Special Theme)**
- 3E-2-1S Design and Fabrication of Microwave Pyrolysis System**
Chau Van Dinh¹, Susan Roces¹, Florinda Bacani¹, Piyachat Yimsiri², Masatoshi Kubouchi³, ¹De La Salle Univ., Philippines, ²Burapha Univ., Thailand, ³Tokyo Inst. of Technology, Japan
- 3E-2-2S EcoDesign of Multilateral Recycling Systems in Asia -2nd Report: Recycling Profit Analysis Model-**
Masayuki Kuwatani¹, Jun Fujimoto¹, Yasushi Umeda², Shinsuke Kondoh³, ZhiDong Li⁴, Kazuhiko Nakamura¹, ¹The Univ. of Tokyo, Japan, ²Osaka Univ., Japan, ³AIST, Japan, ⁴Nagaoka Univ. of Technology, Japan
- 3E-2-3S A Methodology of Estimation to Accumulated Resources and Dismantling Materials from the Existing Building Stock**
Chia-Liang Weng, Tomonari Yashiro, The Univ. of Tokto, Japan

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- P-1 The Functional Evaluation of Future Wheelchairs Contributing to Ecological Aid in Traveling**
Toshiki Nishiyama^{1,2}, Fuyuo Takiuchi², Kaoruko Ando², Makoto Arisawa¹, ¹Keio Univ., Japan, ²The Inst. of Areal Studies, Japan
- P-2 Withdraw Due to No Paper Submission**
- P-3 Withdraw Due to No Paper Submission**
- P-4 A Study on Consumer's Conceptual Image for an Environmentally Conscious Product**
Noriyuki Horie, Toshihiko Iwamoto, Shin'ichi Okamoto, Tokyo Univ. of Information Sciences, Japan
- P-5 An Assessment Model of Green Design Analysis for Photocatalyst Products of Environmental Protection**
Jui-Che Tu, Da-Yeh Univ., Taiwan
- P-6 An Experimental Study on Waste Paper Recovery System for Medium and Small-size Enterprises.**
Tatsuya Ooki¹, Sonoko Watanabe¹, Osamu Uchida¹, Hiroshi Kanzaki², Shin'ichi Okamoto¹, ¹Tokyo Univ. of Information Sciences, Japan, ²Chiba City Environment Bureau, Japan
- P-7 Withdraw Due to No Paper Submission**
- P-8 Production of Chemical Compound from Bio-Ethanol by Zeolite Catalysts**
Megumu Inaba, Kazuhisa Murata, Masahiro Saito, Isao Takahara, National Inst. of Advanced Industrial Science and Technology, Japan
- P-9 The Distribution Design of PEM Fuel Cell Cogeneration**
Shin'ya Obara¹, Kazuhiko Kudo², ¹Tomakomai National College of Technology, Japan, ²Hokkaido Univ., Japan
- P-10 Designing Concepts of Energy and Food Production System for a Sustainable Consumption (2): An Introduction**
Edilson Shindi Ueda, Laboratory of Sustainable and Universal Design, Brazil
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Edilson Shindi Ueda, Laboratory of Sustainable and Universal Design, Brazil
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Ding Rong Ou¹, Toshiyuki Mori¹, Fei Ye¹, Jin Zou², John Drennan², ¹National Inst. for Materials Science, Japan, ²The Univ. of Queensland, Australia
- P-13 Relationship between Microstructure and Ionic Conductivity in Ytterbium Doped Ceria**
Fei Ye¹, Toshiyuki Mori¹, Ding Rong Ou¹, Jin Zou², John Drennan², ¹National Inst. for Materials Science, Japan, ²The Univ. of Queensland, Australia
- P-14 Withdraw Due to No Paper Submission**
- P-15 Grant System for Improvement of Traditional Vacant House in Rural Areas -Case Study in Kagoshima Prefecture-**
Sachiko Yamamoto, Mahito Nakazono, Yamaguchi Univ., Japan
- P-16 Proposed Models for Implementing an Ecodesign Initiative in Wales**
Simon O'Rafferty, Frank O'Connor, Univ. of Wales Inst., UK
- P-17 Damage of Stainless Steels by Erosion in Molten Pb-free Solder**
Tadashi Takemoto¹, Masaharu Takemoto², ¹Osaka Univ., Japan, ²Sumitomo Electric Industries, LTD., Japan
- P-18 Environmental Benefit of Waste Home Appliance Recycling II- A Trial to Reduce Environmental Loads -**
Yutaka Kawamura, Haruo Suzuki, Toshiba Plant Systems & Services, Japan
- P-19 Some Examples of the Implementation of Self-circulation Recycling**
Takeharu Shinagawa¹, Tsukasa Takagi¹, Shinobu Ogasawara¹, Yasuto Iseki¹, Toshiaki Ota², ¹Mitsubishi Electric Corp., Japan, ²Hyper Cycle Systems Corp., Japan
- P-20 Fabrication of Nano-structured Dy_xCe_{1-x}O_{2-x/2} (x=0.15 and 0.2) Electrolytes Using Combined Process of Spark Plasma Sintering and Conventional Sintering**
Tomoaki Kobayashi¹, Toshiyuki Mori¹, Yarong Wang¹, Ding Rong Ou¹, Fei Ye¹, Hidehiko Kobayashi², John Drennan³, ¹National Inst. for Materials Science, Japan, ²Saitama Univ., Japan, ³The Univ. of Queensland, Australia
- P-21 Development of High Quality Pt-CeO₂ Based Anode Materials for Direct Methanol Fuel Cell Applications**
Toshiyuki Mori¹, Motoi Takahashi¹, Ajayan Vinu¹, Satoshi Takenouchi¹, Je-Deok Kim¹, Hidehiko Kobayashi², John Drennan³, ¹National Inst. for Materials Science, Japan, ²Saitama Univ., Japan, ³The Univ. of Queensland, Australia
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Hidetoshi Aoki, Hachinohe Inst. of Technology, Japan
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- P-24 Life Cycle Management Applied to Ecodesign: "Daily Re-evolutions: Waste Prevention Project at Municipal Markets"**
Carlos Jimenez Martinez, Univ. of La Laguna, Spain
- P-25 Environmental Assessment of e-Learning Based on a Customer Survey**
Kazue I. Takahashi, Masayuki Tsuda, Jiro Nakamura, Kiyoshi Kato, Shiro Nishi, NTT Energy and Environment Systems Laboratories, Japan

- P-26 Eco-Design Guideline for Software Products**
Shinji Kawamoto, Masaaki Aoyagi, Yuji Ito, Fuji Xerox Co., Ltd., Japan
- P-27 A Study on the Design and Manufacturing Process of the Muffler for Heavy Equipments Considering Environment**
Kyu-Taek Han, Min-Soo Kim, Pukyong National Univ., Korea
- P-28 Identified Risks at Swedish Recycling Centres during Handling of Waste from Electric and Electronic Equipment**
Rickard Svensson, Inga-Lill Engkvist, Jörgen Eklund, Mats Björkman, Mats Eklund, Linköping Univ., Sweden
- P-29 Evaluation of Notebook and Desktop Personal Computer through the EcoLeaf Type III Environmental Label**
Kensuke Fuse, Satoshi Oikawa, Fujitsu Ltd., Japan
- P-30 Withdraw Due to No Paper Submission**
- P-31 Withdraw Due to No Paper Submission**
- P-32 “Ecomatériauthèques”: Visibility on the Environmental Impact of Materials to Help Decision-making of Designers?**
*Gaël Guilloux³, Marie-Marguerite Gabillard³, Natacha Gondran², Salvador Capuz Rizo¹, Christian Brodhag,
¹Universidad Politecnica de Valencia, Spain,²Ecole des Mines de Saint Etienne, France,³Centre du Design Rhône-Alpes, France*
- P-33 Design for Disassembly: Potential for Durability**
Kerry Harmer, Univ. of Alberta, Canada
- P-34 Present State and Prospects of Waste Management Businesses in Japan**
Shunsuke Kurosaka, Shin'ya Nagasawa, Waseda Univ., Japan
- P-35 Present State and Prospects of Waste Management Business in USA**
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