ECODESIGN CHINA 2004

- 1st International EcoDesign Electronics Symposium -

Date: March 22nd - 23rd, 2004

Venue: Everbright Hotel, Shanghai, P.R.China

Program

Day 1 - Mon, March 22

Session: Keynote
Place: Hall No.8
Session chair: Tadatomo Suga, University of Tokyo, Japan

09:00-09:20 **Opening Speech**
Tadatomo Suga
University of Tokyo

09:20-10:00 **Keynote Speech :**
Status Quo, Problems and Contermeasures in Recycling and Disposal of E&E Wastes in China
Yongfeng Nie
Tsinghua University, China

10:00-10:40 **Keynote Speech :**
An Industry Vision How to Move EcoDesign (Design for Environment) Forward in China
Prof.Dr.Ir.Ab Stevels
Chair for Applied EcoDesign,Design for Sustainability Lab, Delft University of Technology and Environmental Competence Centre, Philips Consumer Electronics, Netherlands

10:40-11:20 **Keynote Speech:**
Plastic Thin-Film Transistors-Gateway to Structurally Inspiring Green Electronics
Beng S. Ong*, Yiliang Wu, Ping Liu, Sandra Gardner
Materials Design and Integration laboratory, Xerox Research Centre, Canada

11:20-12:30 **Lunch**

Session: Design for Environment in Electronics Industry
Place: Hall, No.7
Session Chair person:
Frank Shou, Dell, China
Johau Lewis Chen, National Cheng Kung University, Taiwan

12:30-12:55 **Green Electronics Trends - Meeting the Requirements of the European Market**

Karsten Schischke1, Hansjoerg Griese2, Herbert Reichl1, Berlin Center of Advanced Packaging (BeCAP), c/o Technical University of Berlin, Germany

12:55-13:20 **Fujitsu's approach to ecological materials technolgy for sustainable society**
- Recycling technology for notebook PC -
Nobuo Kamehara, Yuzo Horikoshi, Isao Watanabe, Koichi Kimura, Takahumi Hashitani and Kouta Nishii. Fujitsu laboratories, Japan

13:20-13:45 **Design for Environment in Motorola**
William Olson, William F. Hoffman III, Motorola Physical Realization Research Center - Europe, Motorola Schaumburg, USA

13:45-14:10 **Seiko Epson's System for Creating Environmentally Conscious Products**
Masanori Yagasaki, Eiko Mimura, Kosuke Masuzawa, Yoichi Ushiyama, Kiyomi Nakano, *1 Kazuhiro Nishida, Takeshi Takizawa*2 Seiko Epson, Japan

14:10-14:20 **Break**

14:20-14:45 **Outsourcing and EcoDesign - The Challenge Ahead**
Nils de Caluwe, Philips Consumer Electronics, Singapore

14:45-15:10 **Comparative Analysis of the Manufacturing and Consumer Use Phases of Two Generations of Semiconductors**
Marissa A. Yao1, Allen R. Wilson1, Terrence J. McManus1, Farhang Shadman2, 1 Intel Corporation, 2 University of Arizona

15:10-15:35 **Effective Bi-directional Communication Technique of Environmental Information. -The present state of environmental communication in Japan**

Yoko Mayuzumi*1, Hyojeong Jin*1, Ikuro Choh*2, Global Information and Telecommunication Studies Waseda University, Japan

15:35-16:00 **Coffee Break**

Session: Design for Environment Tool and Evaluation
Place: Hall No.7

Chair persons:
Karsten Schischkel, Fraunfhofer IZM, Germany
Terrence J. McManus, Interl, USA

16:00-16:25 **Some Simple LCA Methods for Estimating Environmental Burden During the Early Stages of Product Eco-Design**
Jahau Lewis Chen, National Cheng Kung University, Taiwan

16:25-16:50 **Studies on Application of Designing for Environment for Information Technology Products in Taiwan**
Ching-Chih Lin1, Zen Wang2, Cheng-Hung Lee1, 1. Associate Researcher of CESH, Industrial Technology Research Institute, Taiwan, 2. Manager of CESH, Industrial Technology Research Institute, Taiwan

16:50-17:15 **The Role of TRIZ Method in Eco-Innovation of Green Electronics**
Jahau Lewis Chen, National Cheng Kung University, Taiwan

17:15-17:40 **Environmental Parameters of TRIZ Contradiction Matrix for Ecodesign**
Norie Kobayashi, Atsushi Aoyama, Tokyo Institute of Technology, Japan

18:00-20:00 **Banquet （晚宴） 1 楼世纪村**

Session: Lead free Technologies (1)
Place: Hall No.11

Chairpersons:
Yoshiharu Kariya, NIMS, Japan
Chunqing Wang, Harbin Institute of Technology, China

12:30-12:55 **(Invited Speech)**
Development and Trend of Lead-free Solders
Jusheng Ma, Xiaoyan Li, Guohai Chen, Zhiting Geng, Guanglong Wang, Dept. of Materials Science & Engineering, Tsinghua University, China

12:55-13:20 **Production of Ultra Fine Uniform Lead-Free Solder Powders by A New Atomization Technology**
Kazumi Minagawa, Hideki Kakisawa, Susumu Takamomi, Yoshiaki Osawa and Kohmei Halada, National Institute for Materials Science, Japan

13:20-13:45 **Wettability Characteristics of Sn-3.5Ag Solder on Copper Treated By ND:YAG Laser**
Zhenqing Zhao, Chunqing Wang, Mingyu Li, Lingchao Kong, State Key Laboratory of Advanced Welding Production Technology, Harbin Institute of Technology

13:45-14:10 **Some Characterization of Lead-free Sn-Cu Solder Electroplating**
Guohai Chen, Sowjun Matsumura*, Jusheng Ma, Dept. of Materials Science & Engineering, Tsinghua University, China,* Okuno Chemical Industries, Japan

14:10-14:20 **Break**

14:20-14:45 **Effect of Stress Relaxation on Low Cycle Fatigue Life of Pb-free Solder Joints**
Yoshiharu KARIYA1, Takuya HOSOI2 and Tadatomo SUGA3, 1National institute for Materials Science, 2 Graduate School of Shibaura Institute of Technology, Research Center for Advanced Science & Technology, 3 The University of Tokyo, Japan

14:45-15:10 **A Novel Reflow Method for Electronic Area Array Packaging**
Rong An, Mingyu Li, Chunqing Wang, Lingchao Kong SKL AWPT,Harbin Institute of Technology, China

15:10-15:35 **The Application of FEA in Mechanical Bending Fatigue Test of BGA Assemblies**
Yahong Wang, Jim Liu,MATC-Asia, Motorola (China) Electronics Ltd

15:35-16:00 **Coffee Break**

Session: Lead free Technologies (2)
Place: Hall No.11

Chairpersons
Thilo Sack, Celestica, Canada
Liu Xin Jun, Tohuko University, Japan

16:00-16:25 **Road to Lead free Soilder**
Katsuhiko Ohfuji, Ishikawa Metal, Japan

16:25-16:50 **Development of a Design Tool and its Application in Pb-free Micro-solders**
X.J.Liu1, I.Ohnuma1, S.L.Chen2, R.Kainuma1, K.Ishida1 and Y.A.Chang2, 1- Tohoku University, Japan, 2-University of Wisconsin, USA

16:50-17:15 **Research on the Sn-Zn Lead free Solder**
Xiaoyan Li, Guohai Chen, Jusheng Ma, Tsinghua University, China

Day 2 - Tue, March 23

Session: Green Supply Chain and Chemical Management
Place: Hall No.7

Chairpersons:
Nils de Caluwe, Philips, Singapore
Hidetaka Hayashi, University of Tokyo, Japan

09:25-09:50 **Environmentally-Sensitive Materials in Electronic Products & RoHS**
Mark Newton, Frank Shou, Worldwide Environmental Affairs, Dell, China

09:50-10:15 **Sony's Green Procurement Policy**
Masakazu Okano, Sony, Japan

10:15-10:40 **Greening Supply Chain - GP Programs of the Asian Productivity Organization -**
Takuki Murayama, Asian Productivity Organization, Japan

10:40-11:05 **Testing Method for RoHS Substances - Experience at Motorola**
Markus Stutz, Michael Riess, Motorola Physical Realization Research Center-Europe, Motorola GmbH, Taunusstein, Germany

11:05-11:30 **Electronic Products and Materials Assay**
Song Wei, Jim Liu, Liang Xia, Qian Chunyan, Yang Yanli, Di Zhiguang, Beijing Center for Physical and Chemical Analysis, Beijing Pony Center for Physical and Chemical Analysis, Motorola, China

11:55-13:00 **Lunch**

Session: Recycling
Place: Hall No.7

Chairpersons:
Yasuo Kitano, EMSI, Japan
Zhifeng Liu, Hefei University of Technology, China
Kazuhiko Nakamura, University of Tokyo, Japan

13:00-13:25 **(Invited Speech)**
Legal Framework for Recycling Oriented Society and Environmental Activities of Electric Home Appliances Industry in Japan
Yasuaki Seyama, Association for Electric Home Appliances, Japan

13:25-13:50 **The Development of Green Electronics in Wuxi**
Xio Song Zhang, Wuxi High Tech. Zone, China

13:50-14:15 **Study and Development of Appliances Recycling Management Information System**
Liu zhifeng Lv yi Zhou hougui, Hefei University of Technology, China

14:15-14:35 Break

14:35-15:00 **Theoretical Considerations on Self Sustainable Recycling Systems**
Hidetaka Hayashi, Research Center for Advanced Science and Technology, University of Tokyo, Japan

15:00-15:25 **Strategy for Green Electronic & Electrical Industry**
Zhou Zhongfan, China Research Academy of Environmental Science, China

15:25-15:50 **Research on High Efficiency E-waste Recycling System**
Pan junqi Liu zhifeng Liu guangfu Qi yunhui, Hefei University of Technology, China

Special Session: Inverse Manufacturing
Place: Hall No.11

Chairperson:
Shinji Takahashi, Manufacturing Science & Technology Center, Japan

09:00-09:25 **The Results and Activities in Inverse Manufacturing Forum**
Shinji Takahashi, Takahisa Mano, Manufacturing Science and Technology Center, Japan

09:25-09:50 **Feasibility Study on PC Global Recycling**
Kazuhiko Nakamura 1, Takeshi Koga 2, Tadatomo Suga 1, 1 University of Tokyo, 2 Fujitsu, Japan

09:50-10:15 **Alternative Evaluation Method; Eco-efficiency Potencial Assessment**
Masahito Aizawa1, Ken Asaoka1, *Yasuo Kitano1, Takashi Shimizutani1, Shinji Takahashi2, Takahisa Mano2, 1 Environmental Management for Sustainability, 2Manufacturing Science and Technology Center

Lead-free Tutorial Course
Place: Hall No.11

10:30-17:00

Tutors
Thilo Sack, Celestica
Vivek Gupta, Intel

Bance Hom, Consultech International
Ruben Bergman, HDP User Group

Please see the detailed information below

17:00-17:10 **Closing Speech**
TBA, China Society of Environmental Science

Lead-free Tutorial Course

Tutors:
Thilo Sack, Celestica
Vivek Gupta, Intel
Bance Hom, Consultech International Inc
Ruben Bergman, HDP User Group

HDP (High Density Packaging) User Group International, Inc. is a non-profit trade organization incorporated in the State of Arizona, USA that offers memberships to companies involved in the supply chain of producing products that utilize high-density electronic packages. The knowledge base generated by this organization and its members over the last five years with lead and lead-free solder alloys makes this focus a natural value added area for the members of HDP User Group. "Lead-free tutorial" at EcoDesign China Symposium provides a comprehensive practical course. The tutorial basically covers the "General Purpose Lead-free Assembly System Implementation Guideline" issued by HDP User Group. HDP User Group has received the Soldertec Global Lead-Free Solder Consortium Award year 2003.

Who Should Attend
- System integrators will implement lead-free processes in products
- Packaging engineers and material suppliers will develop semiconductors and materials which comply with lead-free processes

Draft agenda

Opening - Ruben Bergman

Pb-free drivers - Vivek Gupta
- Legislative Requirements
- Market Driven Requirements
- Definition of Lead-free Electronic Products
- Typical lead-free transition roadmap

The GPLF Material System - Vivek Gupta/Bance Hom
- System Overview
- Solder Alloys
- Component Surface Finishes
- Board Surface Finishes
- Board Materials

Board Design - Vivek Gupta

GPLF Assembly Process Requirements - Thilo Sack
- Overview Assembly Processes
- Component MSL Specifications
- Compatibility System
- Lead-free Manufacturing Processes
  - Reflow Soldering Process
  - Wave Soldering Process
  - Vapor Phase Soldering Process
  - Rework Process
- Other Manufacturing Issues
  - Inspection
  - Marking

Cost Issues - Vivek Gupta

Data Sheet Requirements - Thilo Sack

Legislation and Industry Specification Documents - Ruben Bergman

Questions and Answers