

Research Technical Assistance Publications Events About

2011 Sustainable Electronics Symposium

About the Symposium

Electronics & Sustainability: Design for Energy and the Environment

March 23-24, 2011



The Sustainable Electronics Initiative (SEI) and Illinois Sustainable Technology Center (ISTC), a unit of the Prairie Research Institute at the University of Illinois at Urbana-Champaign, hosted a symposium entitled **Electronics & Sustainability: Design for Energy and the Environment** on March 23-24, 2011, at the I-Hotel and Conference Center on the campus of the University of Illinois at Urbana-Champaign. The symposium hosted a variety of impressive speakers in the field of academia, manufacturing, retail, government, and recycling presented their take on electronics and sustainability.

Symposium Highlights

- Professor **William Bullock**, Professor of Industrial Design and Affiliate Faculty with the Illinois Sustainable Technology Center, opened the symposium with the view that events such as this, in which multiple stakeholders come together to share ideas and exchange information, are important for addressing complex issues like how to improve the sustainability of electronics across their life cycles and how to tackle the global e-waste problem.
- **Callie Babbitt** of Rochester Institute of Technology spoke about a case study which was used to identify tradeoffs associated with various end-of-life management options and to provide a benchmark for educational institutions.
- **Dr. Andrew Steckl** of the University of Cincinnati discussed the concept of using paper as a substrate material for electronic devices. Paper offers several potential benefits, in terms of its availability, flexibility, versatility, renewable and biodegradable nature, relatively low cost and low contamination.
- **Dr. Bill Olson**, Director of the Office of Sustainability and Stewardship for Motorola Mobile Devices discussed the Motorola CITRUS(TM), the latest environmentally conscious phone available from Motorola. He focused on the materials engineering research that went into the development of this first green Android platform phone and the development of green Android apps, including Motorola's work with Eco Hatchery to develop the free Light Bulb Finder app.
- **Willie Cade** of PC Rebuilders and Recyclers (PCRR) discussed findings from the analysis of hard drives received at his facility regarding hard drive utilization. He presented surprising statistics illustrating just how little hard drive space is actually used over the life of a typical computer and presented his thoughts on reuse as the most sustainable option for electronic equipment.
- **Kyle Wiens** discussed iFixit, an innovative collaborative online equipment repair community dedicated to helping consumers around the world extend the useful life of their hardware. Using car repair as an analogy, he pointed out that information abounds on auto repair, is readily accessible to consumers, and that it is relatively easy to obtain parts for working on the repair of your own car. In contrast for electronic devices, the inaccessibility of repair and cost associated with it in the developed world makes it harder for the average consumer to choose to repair and prolong the life of equipment, and that electronic devices are migrating elsewhere in the world.
- **Dr. John Pfeuger**, Principle Environmental Strategist for Dell, Inc., provided the keynote address, discussing the importance of the business case for sustainability. Beyond science and technology, it is necessary to analyze operations, economic considerations, and marketing aspects when trying to drive sustainability initiatives. He underscored the importance of being able to identify and quantify externalities in order to help all stakeholders understand and recognize the benefits of sustainability.
- **Chuck Newman**, founder of ReCellular outlined the technical challenges associated with cell phone reuse, and some of the ways in which ReCellular has addressed those challenges, including their automatic processing system (the "Ninja Box"), universal battery fixtures, universal multiple battery testers, automatic model identification and their testing and quality assurance facility.
- **Sara Behdad**, PhD candidate in the Industrial and Enterprise Systems Engineering Department at the University of Illinois at Urbana-Champaign, discussed the factors that complicate e-waste management, including the uncertainty surrounding quantity and quality of used equipment received for management, as well as the timing of equipment receipt.

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2010 Biochar Symposium

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2008 PPCPs Symposium

Sponsored Research Symposium

2011 Sustainable Electronics Symposium

2010 Sustainable Electronics Symposium

- A panel discussion at the end of the first day of the symposium provided a wealth of interesting conversation and insights from experts including **John Pfleuger (Dell)**, **Bill Olson (Motorola)**, **Bill Hoffman (UL Environment)**, **Willie Cade (PCRR)**, **Jade Lee (Supply Chain Services, Inc.)**, **David Walters (IL EPA)**, **Callie Babbitt (RIT)**, and **Praveen Gupta (IIT)**.



- **Katie Reilly** of Electronics Recyclers International, Inc. kicked off the second day of the symposium by providing an overview of the patchwork of e-waste laws that have passed or are proposed across various states. She highlighted the variability among these laws concerning product types covered, what the recycling obligations are based upon (return share vs. market share), and even among product overlaps the variation in product specifications.
- **Mike Mitchell** of the Illinois Recycling Association first provided an overview of the State Electronics Challenge, a program that provides support to state, tribal, regional and local governments for stewardship of electronic products. He then gave an overview of the current status of electronics recycling in Illinois, providing statistics related to implementation of the Electronic Products Reuse and Recycling Act after its first year, information on goals for the coming year, and an overview of electronics collection and recycling facilities in Illinois.
- **Dr. Bill Hoffman**, UL Environment, discussed the efforts to develop a series of standards for mobile devices. The initial phase of this effort has focused on mobile phones, and an overview was provided of the criteria, the process used to determine and develop those criteria, and how lifecycle analysis was used in throughout the process.

- **Dr. Manish Mehta** and **James Armine, Jr.** discussed the partnership between the National Center for Manufacturing Sciences (NCMS) and illumisys, a solid state lighting products manufacturer, to review and quantify the impacts of LED, incandescent and fluorescent benchmark lamps over a product lifecycle.



- **Dr. Alex Lobos**, **Ana Maria Leal Yepes**, and **Sandra Turner** discussed their efforts, along with Dr. Callie Babbitt to create a model transdisciplinary curriculum for sustainable design of electronics. They presented the development and implementation (in Fall 2010) of a studio design course at the Rochester Institute of Technology, in which teams of undergraduate senior-level industrial design students, paired with graduate-level sustainability students, tackled the design of a more sustainable notebook computer, and quantifying their results through streamlined life cycle assessment.
- **Courtney Rushforth**, Recycling Coordinator for the City of Urbana, provided an overview of the history and current state of e-scrap recycling efforts in Champaign County, including how Illinois legislation has impacted local government. She also discussed past, present and future trends in electronics recycling within the county, various aspects of community response, and consumer perspectives.
- **Kyo Suh** discussed the use of mobile information and communication technology (ICT) to promote sustainable lifestyle practices. To illustrate the possibilities, he compared three different package delivery systems as an example, discussing how a socially networked package pickup location system could reduce distance mileage, and thus impact fuel use and greenhouse gas emissions.
- **Dr. Praveen Gupta** of the Illinois Institute of Technology discussed innovation for sustainability, highlighting Brinnovation (TM) (Breakthrough Innovation), a holistic and teachable framework of innovation which he developed. He outlined key impact areas and key activities for sustainability and presented corporate examples of innovation in action.
- **Dr. Manohar Kulkarni**, then Director of ISTC, provided closing remarks for the symposium, discussed the capabilities of ISTC and described a recent chemical analysis of slag obtained from PCRR.

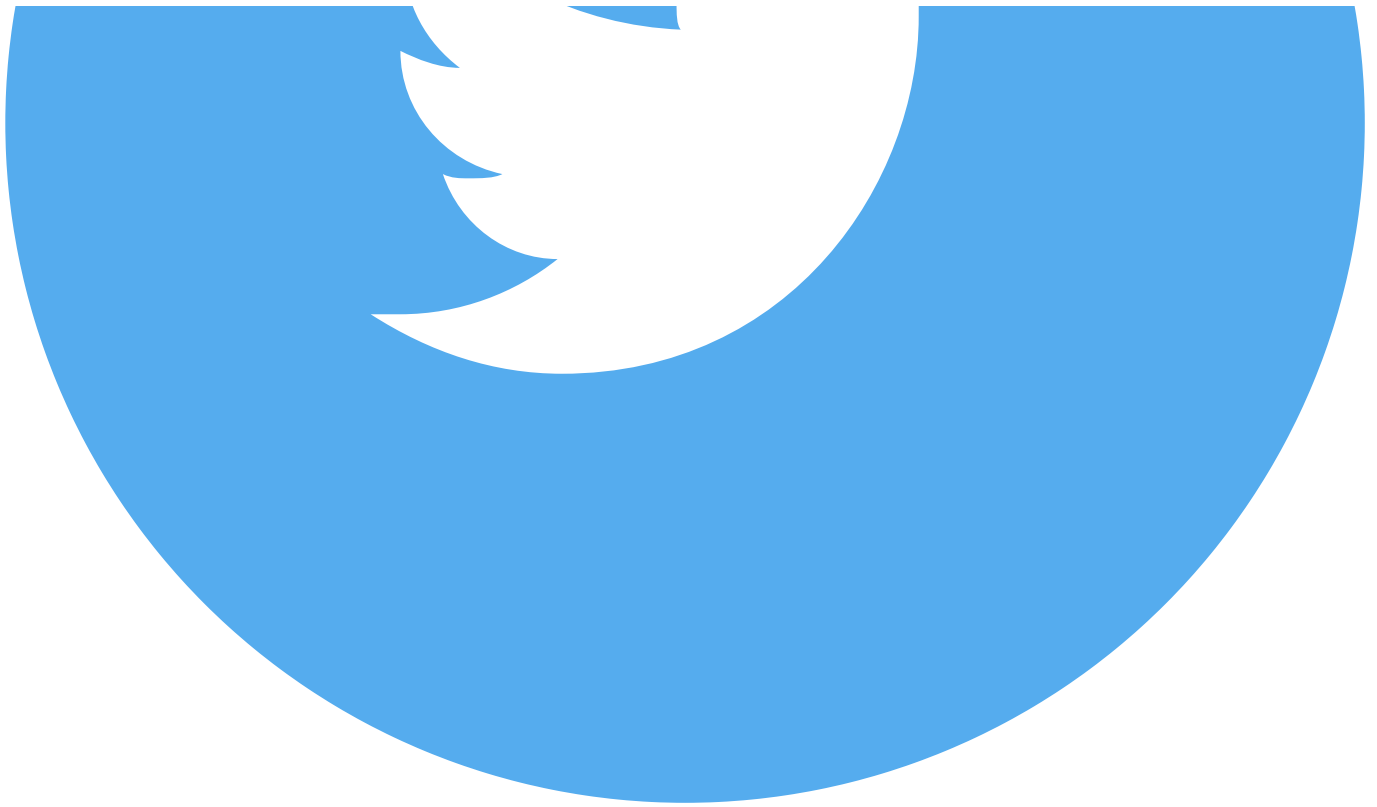


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