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## 2010 Electronics and Sustainability Symposium

by Amy Cade

**The 2010 Electronics and Sustainability: Design for Energy and the Environment Symposium held on Feb. 23-24 was a great success! Over 20 impressive speakers in the field of academia, manufacturing, retail, government, and recycling presented their take on electronics and sustainability. We had an impressive turnout, lively conversation, and overall, a great time was had by all. We would like to thank all the participants, and a special thanks goes out to our sponsors, Dell and Walmart.**

- **Dr. Tim Lindsey**, Sustainable Electronics Initiative Director, opened the symposium with an optimistic message. Dr. Lindsey suggested that the perfect blueprint for sustainability is the natural eco-system and, unlike our man-made eco-system, a natural eco-system does not operate in isolation. Hope was given when Dr. Lindsey acknowledged that we had every stage of the electronics cycle present at the symposium; a great opportunity to work together towards sustainable electronics.

- “We will be the greenest technology company on the planet.” -Michael S. Dell. This is the challenge given to **Dr. Mark Newton, Rajib Adhikary**, and the rest of the team at Dell. Dr. Newton responded to this challenge in his presentation by identifying the areas in which Dell needs to improve, acknowledging the accomplishments that have already been made, and giving a picture for future endeavors. Mr. Adhikary, one of the keynote speakers, took a designers approach to addressing the problem. He recognized that a change from a focus of selling physical equipment to selling the service or experience that equipment provides is a step in the right direction in terms of using less materials and helping the environment.

- **Mike Tibbs**, a Senior Director at Walmart, was the other keynote speaker. Mr. Tibbs gave a compelling presentation about the progress made by Walmart by acknowledging what we were all thinking: the scale Walmart operates on is indeed incredible; the smallest change made from the top has a great impact. Therefore, it was reassuring to hear Walmart's work towards zero waste, 100 percent renewable energy, and selling sustainable products.
- **Chuck Newman**, founder of ReCellular, was also able to give a sense of scale and gravity to the problem of electronic waste by identifying and quantifying just one section of it: cell phones. He discussed the efforts of ReCellular, the type of equipment being turned in, the process used to repurpose the equipment, the main sources of opposition, and ways he has made his business successful. When asked about the difficulty of wiping the cell phones, Mr. Newman replied with an "Oh boy..." and then explained that he employs 14 people solely committed to wiping cell phones. Insuring data destruction seems to be a huge challenge in the field of electronic reuse.
- **Dr. Bill Olson** and **Roger Franz** represented two different sectors of Motorola. Dr. Olsen gave an overview of the sustainability and stewardship efforts made by Motorola. Dr. Olsen's explanation of Motorola's W233 RENEW was especially impressive. Roger Franz is an Engineering Manager at Motorola. He was responsible for eliminating hazardous materials from Motorola cell phones before it was the popular thing to do. He gave an illuminating presentation regarding the materials currently used in cell phones, along with more environmentally friendly materials that could potentially be used.
- **Joseph Shacter** and **Mel Nickerson** addressed the new Illinois E-Waste Law entitled, "Electronic Products Recycling and Reuse Act, Public Act 95-0959." They each gave great information regarding the components of this law, who it will affect, and what they still need to work on.
- **Jeff Omelchuck** from the Green Electronics Council, the nonprofit organization that manages the EPEAT® environmental ratings system, discussed current EPEAT standards, processes, and participation. EPEAT is based on a consensus based public standard - IEEE 1680 - and is used by the US federal government and thousands of other purchasers worldwide to select environmentally preferable electronic products. Mr. Omelchuck was able to explain the purpose and development of the EPEAT criteria and results that have developed from EPEAT standards, including a list of participating manufacturers and purchasers, and estimated environmental benefits from the 237 million registered products sold since the system's launch in 2006.

- There were a great number of **SEI University Affiliates** who gave presentations, including **Deborah Thurston** and **Harrison Kim** from the University of Illinois at Urbana-Champaign (UIUC). They shared information on the work that they and their graduate students are currently conducting, dealing with a new design for Take-Back of electronics. Also from the UIUC, **Dr. John Abelson** gave a riveting presentation about the material choices when considering the entire life cycle of a product. At one point in his presentation, Dr. Abelson quizzed the attendees to guess the most energy intensive steps in the life cycle of a water bottle and then gave his results. The attendees were surprised by the outcome. **Steve Belletire**, Associate Professor of Industrial Design at Southern Illinois University, was also in attendance. In addition to the unequivocal design perspective, his presentation also had a humanitarian message. Mr. Belletire showed a picture of his young grandson to remind the attendees of the reason for the need to become more sustainable: future generations. Another SEI University Affiliate in attendance was **Dr. Tim Smith**, Director and Associate Professor at the University of Minnesota. Dr. Smith analyzed the ways in which we govern electronic standards and gave his educated opinion. **Kate Catterall** and **Amrita Adhikary** presented the work they do at University of Texas, Austin. Kate Catterall comes from a designing background, so gave great insight to design regulations and pointed out the work that could still be done.

- Other academics included **Dr. Callie Babbitt** of Rochester Institute of Technology. Dr. Babbitt introduced her innovative hybrid approach to a Life Cycle Analysis (LCA). Dr. Babbitt then showed results from this type of LCA applied to a 2001 Dell laptop. This type of approach seemed to insure a great amount of accuracy. **Eric Williams**, Professor at Arizona State University, focused his presentation on addressing present heuristics related to the solutions of electronic waste and suggested that a risk management perspective, combined with a consideration of economic and social issues, would be a more prolific approach when considering solutions to electronic waste.

- The symposium's unofficial start began on Monday, February 22, with a tour of the [Illinois Petascale Computing Facility](#). The 20,000-square-foot facility will house [Blue Waters](#), the worlds fastest, state of the art supercomputer to date, which will begin operations on June 1, 2010.

## Symposium Archives

And there was much more! Turn to the [Paper and Presentation Archives](#) for copies of the presentations and videos of the presenters. The archives are

free to symposium attendees, and are available to the outside public for \$50. Attendees, you will be receiving an email with your sign-in information shortly.

## "Take the E-Waste Challenge" Results

During the symposium, participants were asked to take the "E-Waste Challenge" by comparing two computers on the basis of their performance. Without knowing which computer was refurbished (on the right) or brand new (on the left), participants filled out a survey stating which computer performed better. 50% of the survey participants stated that the new computer performed better, 31% said they could not tell a difference between the two computers and 19% that the refurbished computer performed better, respectively.

## Symposium Survey

If you attended the conference, please make sure to fill out the [following survey](#) and tell us about your experience and how we can improve the symposium for next year.

## Become a Member of the SEI!

The Sustainable Electronics Initiative (SEI) offers [Corporate](#), Not-for-Profit, [Professional](#), and [Student Memberships!](#) [Join the SEI](#) and work together with us to research and find solutions to the e-waste problem.

## Mark Your Calendars!

The Second Annual Electronics and Sustainability Symposium is scheduled on **March 23-24, 2011**. Industry and academic practitioners are encouraged to submit abstracts of their recent research, projects, and design thinking for presentation, publication, or both. Proposals can be made for symposium participation in one or more of the following categories: a paper, presentation, panel discussion, or poster display by completing and returning [this form](#) to Wayne Duke at [wduke@istc.illinois.edu](mailto:wduke@istc.illinois.edu).

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