

Sustainable Electronics Initiative



ILLINOIS SUSTAINABLE
TECHNOLOGY CENTER
PRAIRIE RESEARCH INSTITUTE

at the University of Illinois
at Urbana-Champaign

Current Projects

The logo for the Sustainable Electronics Initiative (SEI), featuring the letters 'se' in a bold, green, sans-serif font, followed by 'ei' in a smaller, lighter green font, with a vertical line separating the two parts.

se|ei



International E-Waste Design Competition

www.ewaste.illinois.edu



- Grew out of class taught by William Bullock on e-waste issues in 2009
- Began as a local event, open to all UIUC students
- Expanded to international event in 2010 with online submissions
- Open to current college/university students or recent graduates (since May 2010)
- Students can be from any discipline
- Submissions include a brief YouTube video, project description (500 words – 5 pages), bibliography (min. of 5 references), & proof of eligibility for each team member
- Entries may be made by individuals or teams of up to 5 members
- Two categories: “E-Waste Prevention” & “E-Waste Reuse”
- Three winning projects (1st, 2nd, 3rd places) in each of the two categories—6 total
- Typically have about 30 complete entries from 6-7 countries
- Professors at UIUC & other institutions use the competitions as a class project

International E-Waste Design Competition

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.Registration now open! Deadline for submissions is 4:59 PM CT on Nov. 1, 2012

.Cash prizes from donations

.Corporate sponsors; this year, individuals can also support the program

.Dell, Inc. is corporate sponsor this year

.2012: 1st prize in each category will receive \$3000, 2nd \$2000, & 3rd \$1000

.Jurors are invited from industry, government agencies, academia, and non-profits

.2012 jurors include:

.Jason Linnell, Executive Director, National Center for Electronics Recycling (NCER)

.Chris Newman, Materials Management Branch, U.S. EPA Region 5

.Bill Olson, Director, Office of Sustainability and Stewardship, Mobile Devices Business, Motorola, Inc.

.Steven Samuels, Brand & Design Manager of ReCellular, Inc.

.Kerstin Nelson Strom, Ecodesign Section Chair, Industrial Designers Society of America (IDSA)

International E-Waste Design Competition

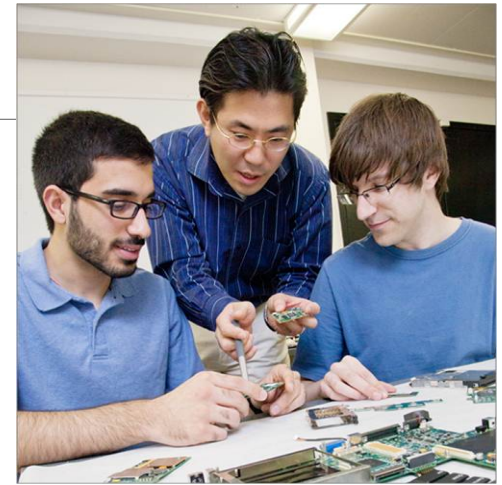
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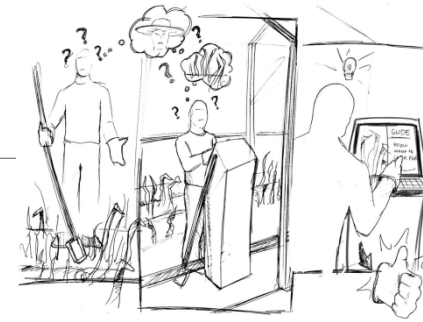
- Media coverage by Discovery News, TreeHugger, EarthTechling & GreenBiz.com
- Pictures and videos from previous winners are available on the competition web site; videos also on SEI YouTube channel <http://www.youtube.com/user/SEIatISTC>
- Questions? Contact Joy Scrogum at jscrogum@illinois.edu or 217-333-8948



Research: New Life for Laptops



- Sponsored by Dell, Inc.
- Identify ways to reuse technology from laptops with hard drives removed for data security
- Goal to extend useful life of valuable materials prior to recycling
- Course offered in Spring 2012 at UIUC
- Professors William Bullock (Industrial Design), Hong Yuan (Business Administration), Cliff Shin (Industrial Design), and Brian Lilly (Engineering)
- Multi-disciplinary teams of students
- Guidance and feedback from John Pflueger, Principal Environmental Strategist, and Mike Watson, Director of Compliance, from Dell, Inc.
- Students decided to focus on agricultural applications because of our location and strong role of agriculture in history of UIUC



Research: New Life for Laptops

Four “microteams” focused on concepts for farms and farmers related to:

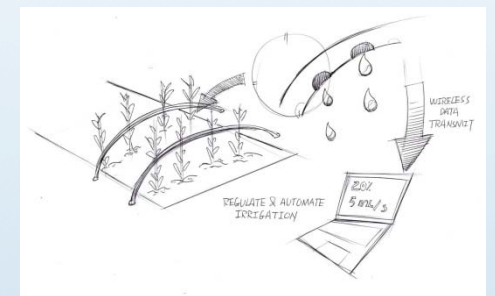
- Education and training—educational kiosks on farms, agricultural education in schools, etc.
- Egg production—use of LCD monitors to provide specific wavelengths of light to chickens to increase egg production
- Irrigation—automated drip irrigation system
- Equipment subscription service for farmers

Archived seminar presentation available at

<http://www.istc.illinois.edu/about/SustainabilitySeminar20120508.cfm>

Future plans

- Investigating collaboration with professors in College of ACES, particularly in having Agricultural Engineering Capstone Design Class possibly build prototypes to test or generate new ideas
- Independent study students with Professor Cliff Shin
- Independent study students with Dr. Manohar Kulkarni at ISTC





Research: Reducing E-Waste Through Purchasing Decisions

- Funded by ISTC Sponsored Research Program; ongoing through May 2013
- Conducted by the Delta Institute and the Green Electronics Council
- Identify opportunities and barriers for purchasing agents to include end-of-life decisions in purchasing process
- Survey to understand business electronics purchasing and disposal activities
- Survey currently under development; will be reviewed by U of I Survey Research Lab
- Interviews will be conducted with some respondents to further explore barriers and opportunities, as well as identify best management practices (BMPs) associated with e-waste disposal
- Up to 5 interviewees will be given assistance to implement an electronics purchase that incorporates end-of-life considerations. Ideally participants will receive assistance in developing an electronics purchasing and disposal policy incorporating the BMPs identified.

Research: Sustainable Use of Electronics on Campus



- Funding from ISTC Sponsored Research Program; Planned for Spring 2013
- Online survey and in-person focus groups of staff from all 5 divisions of the Prairie Research Institute
- Determine how decisions are made regarding electronics disposal, need for new equipment and choice of that equipment, any differences between the divisions, and reasons for differences
- Goal to develop specific policy recommendations for Institute and division heads to extend useful life of computer equipment within the unit
- Also provide information to offer future outreach to unit staff regarding product life cycle extension and environmentally responsible purchasing decisions
- Graduate student will oversee the project, with supervision by Dr. Bethany Cutts of Dept. of Natural Resources and Environmental Sciences (NRES)
- Assistance from U of I Survey Research Lab
- Pilot study that could be expanded to other campus units in future

**Contact us to collaborate on current projects or
new ideas**

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