



### Electronic Waste: Inevitability or Opportunity

**Tuesday, Nov. 12, 11:00 am-12:00 pm; EIS-106**

**Abstract:** Our modern society's hunger to adopt new technologies and discard them just as quickly is leading us to significant waste stockpiles. As electronics have become ubiquitous in our lives, we have failed to appropriately recognize the depth of their unintended consequences, particularly the disposition of these items at the end of their useful lives. The rapid obsolescence of electronic devices, as well as their continually lower cost, has led to higher turnover and more waste. Electronics companies are focused on profit rather than practicing better design for recycling in their products, and minimal research funds are being directed to the development of new technologies for recovery of crucial elements. Of considerable concern is the relative toxicity of these devices. Many heavy metals, phthalates, halogens, and other toxic materials are used in the manufacturing of these products. When unprocessed in the waste stream or informally processed using crude techniques, they have the potential to create long-term ground, air and water pollution issues, resulting in illnesses and deaths worldwide. Issues abound with the lack of information on electronic waste flows, with the vast majority worldwide being unaccounted for and often processed informally. Our own Environmental Protection Agency has little understanding of where our generated e-waste is, and our country refuses to ratify decades-old legislation to control waste exports to developing countries. With China's recent environmental protection efforts, electronic waste items are becoming a costly, international problem with no simple solution in sight. This talk presents the current issues, the challenges and the future of electronic waste, and questions the role that engineers can play in addressing this major issue.



**Mr. Dylan  
Hazelwood**



#### *About the Center for Engineering Concepts Development (CECD) at the University of Maryland*

Founded in 1998, the Center for Engineering Concepts Development has had 60 faculty members involved with various research efforts since inception, and has graduated over 50 M.S. and Ph.D. students. Our vision is to serve as a platform for experimenting with new ideas in engineering education, future technologies, research, and the impact of engineering on society. Our mission is to undertake activities to benefit the economic welfare of the state of Maryland and the Nation by supporting symposia, special groups, courses and innovative activities of contemporary interest. We have worked on a variety of problems including critical materials, data driven design, energetic materials, virtual reality and engineering for social change. The Center regularly publishes books on important topics of current interest, with the most recent being *The True Cost of Waste: Current Issues in Electronic Waste* by Dylan A. Hazelwood, Michael G. Pecht, Maria C. Sanchez and Davinder K. Anand.

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