

Next Generation Manufacturing Faculty Candidate Seminar

DATE: March 9, 2018

TIME: 9:30 AM

LOCATION: Fu Room, POTR 234

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E-waste Tracking and Recovery: The Role of IoT Technology, Product Design and Consumer Behavior

Abstract: Electronic waste (e-waste) is regarded as one of the fastest growing pollution problems in the US and worldwide. The e-waste stream continues to grow by close to 5% annually, three times faster than any other type of municipal waste, with increasing population and increasing per capita product penetration rates. The “E-waste” problem is primarily managed through federal regulations, voluntary partnership programs, and efforts of third-party recycling and remanufacturing companies. The purpose of this seminar is to clarify the role of tracking technologies, designer decisions, and consumer behavior on solving e-waste problems. In this talk, a summary of lessons learned in the following areas will be provided: (1) The use of tracking technologies for monitoring the complex socio-economic e-waste generation and recovery system, (2) study the role of consumer’s product storing, product usage, and repair behavior, and (3) design of product-level and system-level interventions to manage e-waste streams.

Bio: Sara Behdad is Assistant Professor of Mechanical and Aerospace Engineering, and Industrial and Systems Engineering at the University at Buffalo (UB). She received her Ph.D. in Industrial and Systems Engineering from the University of Illinois at Urbana-Champaign in 2013. She is the founding director of Green Engineering Technologies for Community of Tomorrow (GETCOT) research lab at UB. Her recent research focuses on data-driven life cycle engineering, design for consumer behavior change, and modeling complex socio-economic systems. Her research is mainly funded by NSF. Her work has been covered in media in outlets such as PBS, Daily Mail, The Chicago Tribune, and Motherboard. She is the recipient of the 2017 International Life Cycle Academy Award for her contribution to sustainable consumption field. Currently, she is serving as the conference chair of ASME Design for Manufacturing and Life Cycle Conference at 2018 International Design Engineering Technical Conferences (IDETC 2018), and a guest associate editor for the ASME Journal of Manufacturing Science and Engineering.