



Seminar Speaker: Dr. Ann Bisantz, University at Buffalo
Industrial Engineering Distinguished Leader Seminar Series

Time and Location: Wednesday 2/10/16 from 12:20 to 1:10, Freeman Auditorium

Title: Cognitive Systems Engineering and Health Informatics: Analysis Outcomes and Design Implications

Abstract: Health information systems have been advocated as a solution to the problems of errors and adverse events in health care. In emergency departments, electronic patient tracking systems are being implemented to replace manual status boards (“whiteboards”) that are commonly used for managing clinical work. Manual status boards traditionally contained medical and logistical information about patients and provide staff with information about patients as well as higher level information regarding hospital state and team coordination information (assignments of providers to patients; status of on-call providers). While electronic versions of the status boards may mimic the look and layout of manual boards, support automated recording keeping and reporting, and allow information on the status board to be accessed at different locations in the hospital, they also impose new constraints on use, miss a critical opportunity to best support the work of the healthcare providers, and introduce new failure modes with unanticipated consequences. Such new technologies are often designed without an in depth understanding of the work they need to support, or are designed with a focus on administrative functions rather than patient care functions (e.g., record keeping; billing). Without a careful understanding of how new technologies will be used in practice or the barriers to their use as expected, new technology can lead to unanticipated, undesirable consequences. This talk describes results from field studies and cognitive engineering analyses that can better inform the design of health IT for emergency medicine.

Bio: Dr. Ann Bisantz performs research in areas of cognitive engineering, human-computer interface design, complex work system analysis. She is currently Professor and Chair of Industrial and Systems Engineering at the University at Buffalo, State University of New York. Dr. Bisantz received a PhD in Industrial and Systems Engineering from the Georgia Institute of Technology and an MS and BS in Industrial Engineering from the University at Buffalo. Her research includes developing novel information displays for complex systems, advancing methods in cognitive engineering, and modeling human decision-making; she has worked extensively in domains of health care and defense. She has an active research program regarding visualization of information qualifiers such as uncertainty, trust in information, and decision making which has been funded through a number of defense organizations as well as through a CAREER award from the National Science Foundation. She is also collaborating with health informatics researchers and clinicians on research regarding health IT usability, workflow impacts and human factors of electronic health records and has conducted patient safety studies including risk analysis studies; and simulation and field studies of emergency department patient tracking systems. She has co-edited the books “Applications of Cognitive Work Analysis” (2008, CRC Press) and “Cognitive Systems Engineering in Health Care” (2015, CRC Press). She is a Fellow of the Human Factors and Ergonomics Society and Associate Editor of the Journal of Cognitive Engineering and Decision Making. Dr. Bisantz was appointed ISE department chair in 2012.