

# DEPARTMENT OF INDUSTRIAL AND ENTERPRISE SYSTEMS ENGINEERING

GE/IE 590 SEMINAR

## Integrating CAD into the Human Design Process

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### Abstract

Computer aided design (CAD) tools are unquestionably a core element of the modern design workflow. Despite the fact that CAD tools have been around (in some form) for over 40 years, they have not had a great impact on synthesizing new designs and instead are still best used after design exploration has converged. This deficiency can be attributed to the lack of value that automation has provided for the user in terms of time saved or quality improvements in design. In order to provide desirable results, CAD tools must be more integrated into the way we design through human-like evaluation of solution quality, by being customizable to the design task, and enabling exploration at the conceptual stage of design. This talk will give an overview of how user needs and process influenced our commercial design automation tool, how we are integrating grammatical design with design process, and some experiments to test the current state of CAD integration with design process.

### Biography

Jay McCormack is an assistant professor in the mechanical engineering department at the University of Idaho and the university director of the state's manufacturing extension partnership. Dr. McCormack has been at the university since 2007. Before coming to the university, he was co-founder and lead scientist of the company DesignAdvance Systems in Pittsburgh, PA. DesignAdvance made a plug in for the popular printed circuit board CAD tool Allegro that automated design reuse of circuit layout. Dr. McCormack received his PhD from Carnegie Mellon University in 2003.

**Location:** 101 Transportation Building  
**Date:** Thursday, February 23, 2012  
**Time:** 4:00 p.m.