

## POSTER DESCRIPTION SHEET

Title: Incorporating System Properties into Multi-Attribute Tradespace

**Exploration with Concurrent Design** 

Author(s): Adam Ross – Doctoral Research Assistant

## Summary

**Description:** The expected contributions of this research include: concrete quantification of flexibility, robustness, adaptability, and scalability in a value-centric tradespace exploration framework (MATE), insight into how unarticulated value may be assessed in addition to formal articulated value, a useful and expanded process/framework for Conceptual Design trade studies through the explicit consideration of psychological and cognitive abilities of humans, and suggestions for future work.

**Key Points:** 

- 1) Tradespace exploration paradigm allows holistic system understanding, and enables designers to cope with dynamic uncertainty
- 2) Ilities, like flexibility, may arise as tradespace emergent phenomenon
- 3) Incorporation of ilities adds unarticulated value as decision criteria for determining "best" system designs

## Linkage with

**Research:** 

PhD associated with Systems Architecting, Product Design, Lifecycle Sustainability, Emerging Systems Engineering Methodologies