



Systems Engineering Advancement Research Initiative



2009 SEARi Annual Research Summit

Research Preview

“Overview of Research Poster Topics”

SEARi Graduate Research Students

October 20, 2009

Cambridge, MA

Massachusetts Institute of Technology

MIT ESD

Engineering Systems Division

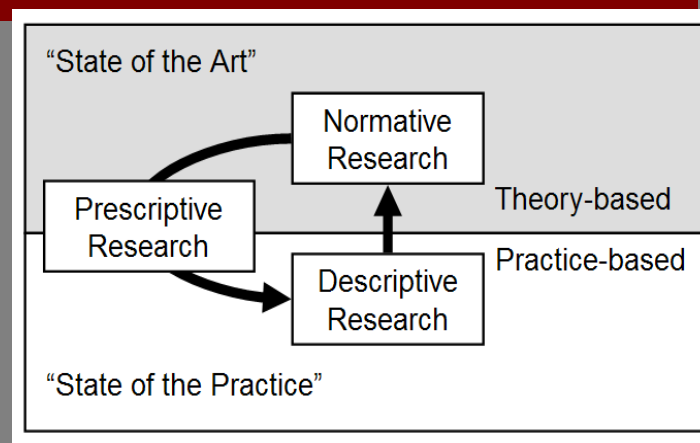
AERO | ASTRO

RESEARCH PORTFOLIO

- Socio-Technical Decision Making
- Designing for Value Robustness
- Systems Engineering Economics
- Systems Engineering in the Enterprise
- Systems Engineering Strategic Guidance

METHODS USED

- Models and Simulations: MATLAB Models, Agent-based Models, STK
- Empirical studies of historical systems, programs, and practices
- Grounded theory, coding/memo writing methods, latent semantic analysis
- Experiment-based studies: advanced analyses, visualizing complex data sets



Alumni Students

The following students graduated in June 2009



Deb Chattopadhyay (SM)

A Method for System of Systems Tradespace Exploration



Presentation

Caroline Lamb (PhD)

Leveraging Organizational Culture, Standard Process, and Team Norms to Enable Collaborative Systems Thinking



Presentation

Tsoline Mikaelian (PhD)

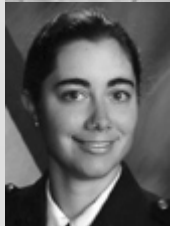
An Integrated Real Options Framework for Model-based Identification and Valuation of Options under Uncertainty



Presentation

Matthew Richards (PhD)

Design for Survivability: Concept Generation and Evaluation in Dynamic Tradespace Exploration



Lauren Viscito (SM)

Metrics for Flexibility in the Operationally Responsive Space Paradigm

Students (1)



David Broniatowski (PhD)

Decision-Making by Technical Expert Committees for Engineering Systems



Kacy Gerst (SM)

Evolving Decision Tools throughout the Enterprise to Address Human Systems Considerations



Kevin Liu (SM)

Economics of Human Systems Integration



Julia Nickel (SM)

Application of Multi-Attribute Tradespace Exploration to the Architecting and Design of a Transportation System

Students (2)



M. Greg O'Neill (PhD)

Assessing the Impacts of Fractionation on Pointing-Intensive Spacecraft



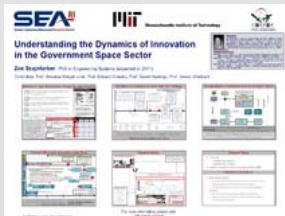
Christopher Roberts (PhD)

Enterprise Management of Systems-of-Systems in the DoD



Nirav Shah (PhD)

Distributed Decision Making in Systems of Systems



Zoe Szajnfarter (PhD)

Understanding the Dynamics of Innovation in the Government Space Sector



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Systems Engineering Advancement Research Initiative

Poster Session
2:50pm to 4:15pm

Please enjoy:

- interacting with the students
- the refreshments