



2011 SEARi Annual Research Summit

Research Preview

“Overview of Research Poster Topics”

SEARi Graduate Research Students

October 21, 2011

Cambridge, MA

Massachusetts Institute of Technology



Engineering Systems Division



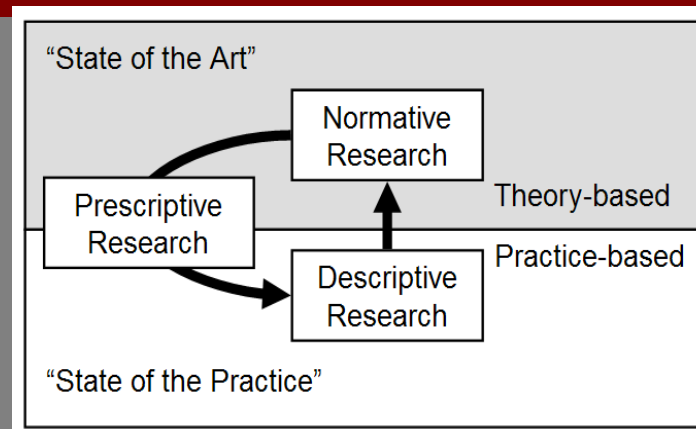
Research Portfolio & Methods

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



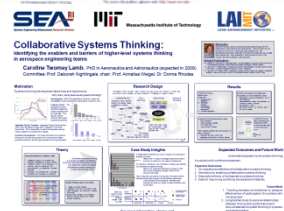
Alumni Students (1)

The following students graduated in 2009



Deb Chattopadhyay (SM)

A Method for System of Systems Tradespace Exploration



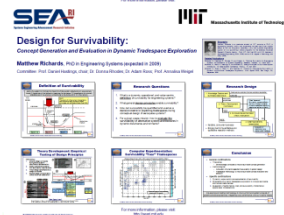
Caroline Lamb (PhD)

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



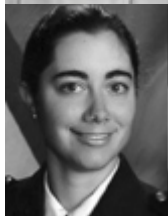
Tsoline Mikaelian (PhD)

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



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

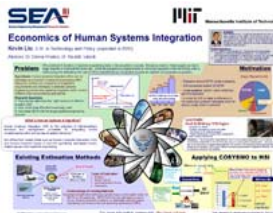
Alumni Students (2)

The following students graduated in 2010



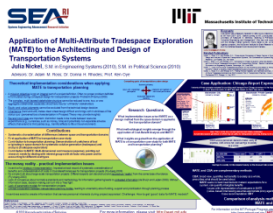
David Broniatowski (PhD)

Decision-Making by Technical Expert Committees for Engineering Systems



Kevin Liu (SM)

Economics of Human Systems Integration

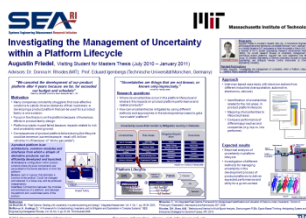


Julia Nickel (SM)

Application of Multi-Attribute Tradespace Exploration (MATE) to the Architecting and Design of Transportation Systems

Alumni Students (3)

The following students graduated in 2011



Augustin Friedel (visiting SM)

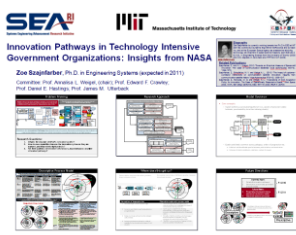
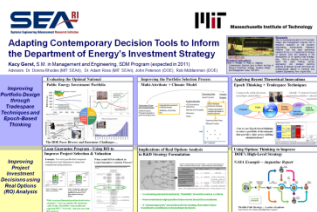
Investigating the Management of Uncertainty within a Platform Lifecycle



Kacy Gerst (SM)

Developing Strategies for Improving the Execution of Human Systems Integration

Adapting Contemporary Decision Tools to Inform the DOE Investment Strategy



Zoe Szajnfarder (PhD)

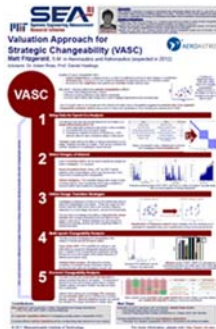
Innovation Pathways in Technology Intensive Government Organizations: Insights from NASA

Current Students (1)



J. Clark Beesemyer (SM)

Empirical Investigation of System Changes and Associated Ilities



Matt Fitzgerald (SM)

Valuation Approach for Strategic Changeability



Matthew Frye (PhD)

Design as a Sequential Decision Process

Current Students (2)



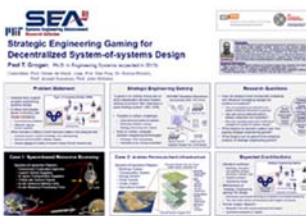
Dan Fulcoly (SM)

The Epoch Syncopation Framework: Analyzing System Change Options in Cost and Schedule Domains



Henrique Gaspar (visiting PhD)

Complexity in Conceptual Ship Design



Paul Grogan (PhD)

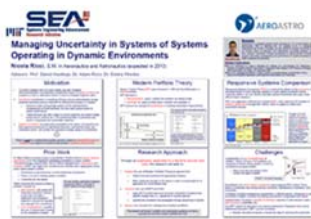
Strategic Engineering Gaming for Decentralized System-of-systems Design



Brian Mekdeci (PhD)

Design Principles for the Survivability of Systems of Systems

Current Students (3)



Nicola Ricci (SM)

Managing Uncertainty in Systems of Systems
Operating in Dynamic Environments



Amanda Rohrbach (SM)

Innovation Pathways in National Security Space



Nirav Shah (PhD)

Influence Strategies for “Constituent-Competitive”
Systems of Systems



Erik Stockham (SM)

Innovation Pathways in National Security Space



Poster Session 2:50pm to 4:00pm

Please enjoy:

- interacting with the students
- the refreshments