2010 SEArri Annual Research Summit

Research Preview
“Overview of Research Poster Topics”

SEArri Graduate Research Students

October 19, 2010
Cambridge, MA
Massachusetts Institute of Technology
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
The following students graduated in June 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 June 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
Students (1)

J. Clark Beesemyer (SM)
Characterizing Evolvability for Engineering Systems (Descriptive Approach)

Matt Fitzgerald (SM)
Quantifying and Valuating Changeability for System Designs in an Uncertain Future

Augustin Friedel (visiting SM)
Investigating the Management of Uncertainty within a Platform Lifecycle

Dan Fulcoly (SM)
Characterizing Evolvability for Engineering Systems (Normative Approach)
Students (2)

Kacy Gerst (SM)
Developing Strategies for Improving the Execution of Human Systems Integration
Adapting Contemporary Decision Tools to Inform the DOE Investment Strategy

Brian Mekdeci (PhD)
Exploring Modes of Operations for Survivable Systems of Systems

M. Greg O'Neill (PhD)
Multi-Criteria Assessment of Fractionated Spacecraft from Technical, Programmatic, and Operational Perspectives
Students (3)

Nirav Shah (PhD)
Influence Strategies for “Constituent-Competitive” Systems of Systems

Erik Stockham (SM)
Innovation Pathways in Technology Intensive Gov’t Orgs: Application to Intelligence Community

Zoe Szajnfarber (PhD)
Innovation Pathways in Technology Intensive Government Organizations: Insights from NASA
Poster Session
2:50pm to 4:15pm

Please enjoy:
– interacting with the students
– the refreshments