



**International Council on Systems Engineering
Delaware Valley Chapter Meeting**
(Non-members welcome to attend)

- Speaker 1:** Daniel T. Cocks, Lockheed Martin, Moorestown, NJ: **Review of the 2008 INCOSE International Symposium “Systems Engineering for the Planet”**
- Speaker 2:** Alain J. Kouassi, Parsons, New York: **Mitigating Rail Transit Project Risks with Systems Integration**
- Speaker 3:** Dr. Gnana K. Bharathy, Ackoff Collaboratory for Advancement of the Systems Approach, University of Pennsylvania, Philadelphia, PA: **Social Systems Modeling for Systems Engineers - updates to April research results**

For abstracts and authors’ biographical summaries, see next 2 pages.

Date: Thursday December 4th, 2008
\$10 for the buffet meal (students \$5)

Agenda:

5:30 to 6:00 pm:	Arrival and Introductions
6:00 to 6:30:	Buffet Meal
6:30 to 6:45:	Chapter Business
6:45 to 7:15:	Speaker 1
7:15 to 7:25:	Break
7:25 to 7:55:	Speaker 2
7:55 to 8:25:	Speaker 3
8:25 to 8:30:	Wrap Up

Place: Room 337, Towne Building, University of Pennsylvania, Philadelphia, PA
220 South 33rd Street

The Towne Building is easily reached by public transport or by car - for directions, please visit the Penn web site at

<http://www.facilities.upenn.edu/visitUs/>

http://www.facilities.upenn.edu/mapsBldgs/view_map.php3?id=205

Visitor parking is available across 33rd Street from the Towne Building (“Palestra” lot 5) – if you respond by Monday December 1st, the Chapter will cover the cost of parking there.

Please contact peter.crosby.scott@comcast.net ASAP if you plan to attend this event – deadline Monday December 1st for the meal count. You may choose from the sandwich selection on Page 4 of this flyer.

For further information about the International Council on Systems Engineering please visit the INCOSE website at <http://www.incose.org/> and the Delaware Valley Chapter website at <http://www.incose.org/delvalley/>



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Review of the 2008 INCOSE International Symposium “Systems Engineering for the Planet”

Dan Cocks is a Lockheed Martin Senior Fellow at Lockheed Martin - MS2 in Moorestown, NJ, where he is currently the Chief Architect for Integrated Domain Awareness & Maritime Security. He has over 20 years of experience in systems engineering and software development. In addition to his work on a variety of projects in naval surface warfare system development, Dan has served for three years as the Chair of the Tools & Technology Working Group of the Lockheed Martin Systems Engineering Subcouncil.

Mitigating Rail Transit Project Risks with Systems Integration

Abstract

As rail transit systems are becoming more complex, from a hardware, software and technology standpoint, new approaches are being contemplated to reduce capital project risk. Systems integration has come forward as a way to efficiently transition from traditional systems designed and installed independently without the need for a formal, structured process for physical, functional, logical, and operational integration, to more integrated systems. This paper presents the application of systems integration as a way to mitigate risk on two light rail projects in New Jersey, USA. It discusses how and at what levels various and complex interfaces were managed, and presents methods used to ensure that interface gaps were avoided, duplication reduced, conflicting requirements across projects negotiated and managed, and coordination among all stakeholders refined. It also highlights similarities and differences in approaching the systems integration process for these two projects, the unique challenges faced by the project teams, and general lessons learned that can be carried forward on other capital projects.

Alain Kouassi, Parsons, New York, NY, INCOSE Assistant Director, Infrastructure



Alain has more than 18 years of professional experience in systems engineering, integration, operations planning, management consulting, and business development. He has served as systems integration and activation manager on numerous multi-million dollars rail projects. He is experienced in all transit modes, including light rail, monorail, heavy rail, commuter rail, and buses. He has served as an Expert Witness, testifying on rail systems integration matters, and has published and presented technical papers at several conferences in the United States, Canada, Australia, and the Netherlands. As a Systems Integrator, Alain has extensive experience in all phases of a project life cycle, including business case and concept of operations, requirements definition and management, design development, integration and testing, and operations and maintenance. He has participated in design-bid-build-operate-maintain turnkey projects, as well as design-build and design-bid-build rail projects, including the \$7.2 billion East Side Access rail project in New York. Alain holds a BS in Civil Engineering, an MS in Civil Engineering, and an MBA.



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Social Systems Modeling for Systems Engineers - updates to April research results

Abstract

This is a sequel to previous talk on Social Systems Modeling (in April 2008), where the speaker introduced a social system modeling methodology and framework. In the last talk, we explored through selected case studies what social system modeling is, and how one could incorporate human behavior into our models.

Here in the sequel, the speaker will follow up with some results from the recently completed modeling efforts where four countries and financial systems were modeled using the previously discussed frameworks. There might also be an opportunity to explore implications of this evolving practice to systems engineering as well as other related disciplines.

Dr. Gnana Bharathy is a Project Manger at the Ackoff Collaboratory for Advancement of the Systems Approach [ACASA], University of Pennsylvania (<http://www.seas.upenn.edu/~bharathy/>), where he has been leading a team in modeling and simulating social systems. Particularly, the recent project involves modeling social, economic, institutional and political stability. Starting spring 2009, Gnana will also be commencing his tenure track appointment at Old Dominion University in the department of Engineering Management and Systems Engineering.

Gnana has a bachelor's degree in technology/ engineering (National Inst. Technology, India), a master's degree in process and risk (Univ. of Canterbury, NZ) and masters and PhD degrees (Univ. of Pennsylvania) in systems engineering with award winning dissertations. His doctoral work pertains to modeling and simulation of social systems.

Before and after his doctorate, Gnana has also worked in consulting industry for a total of over seven years, particularly in risk analysis in various areas of operational and project risks, including in such areas as technology projects, energy, environmental, safety and business continuity. He has also worked in developing and applying models, analytical tools and techniques in the decision sciences and strategic management areas including strategic risk management and scenario planning.

Gnana is a member of the International Council on Systems Engineering (INCOSE), and is also a beneficiary of awards from INCOSE (Steven's Doctoral Student Award in 2005) and Wharton Decision Process Center. He is also a Project Management Institute certified Project Management Professional, and has membership in the Institution of Professional Engineers New Zealand (GIPENZ), and the Society for Risk Analysis. He is also working towards his CSEP certification. Gnana has lived in several countries, spanning three continents.



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The Bistro Box “Lunch”

Choose a Premium Sandwich: comes with a Side Salad, Chips, Whole Fresh Fruit, Cookie and Beverage.

Premium Sandwiches

1. California Cruisin Chicken - Chicken Breast w/Dijon Mustard, Lettuce, Tomatoes & Cucumber on a Multigrain Roll
2. Roast Beef w/Tarragon Cream stacked high on Sourdough w/Tomato & Lettuce
3. Portobello Mushroom Spinach Ciabatta w/Sun-dried Tomato Pesto
4. Ranch Style Tuna Salad w/sliced Cucumbers and Lettuce on Wheat Bread