



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

## **Systems Engineering in Industry and Academia**

**Speaker 1:** Shreekanth Mandayam, Ph.D., Rowan University - Development of a Systems Engineering Program at Rowan University

**Speaker 2:** Dan Cocks, Lockheed Martin - *A Systems Engineering Overview; One Engineer's Perspective from the Front Lines...*

*For abstracts and authors' biographical summaries, see next page.*

**Date:** Thursday November 18, 2010  
\$10 for the buffet meal (students \$5)

**Agenda:**

5:30 to 6:30 pm:	Arrival and Meal in Rowan Hall Atrium (Main Lobby)
6:30 to 6:45:	Chapter Business
6:45 to 7:30:	Speaker 1
7:30 to 7:40:	Break
7:40 to 8:25:	Speaker 2
8:25 to 8:30:	Wrap Up

**Place:** *Henry M. Rowan Hall, Rowan University* <http://www.rowan.edu/map/directions.html>

*Detailed travel directions are provided below.*

Please contact [dancocks@ieee.org](mailto:dancocks@ieee.org) if you plan to attend this event – deadline Monday November 15 to be included in the meal count.

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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## **Development of a Systems Engineering Program at Rowan University - Shreekanth Mandayam, Ph.D., Rowan University**

### Abstract

The College of Engineering at Rowan University was created following a \$100-M gift by Henry M. Rowan in 1992 to what was then Glassboro State University. The Electrical & Computer Engineering program graduated its first class of students in 2000. The program features a lab-based curriculum; an 8-semester sequence of multidisciplinary, team-based projects called “Engineering Clinic” and has been ranked in the top-10 ECE programs in the country numerous times by *US News & World Report*. Starting with the Spring semester in 2011, the ECE department at Rowan University proposes to expand the multidisciplinary project-based experience of Engineering Clinic by offering a Systems Engineering program. The new program leverages existing strengths (faculty expertise, curriculum and facilities) in the Colleges of Engineering, Business and Liberal Arts & Sciences, to create flexible programs that can be implemented incrementally based on student enrollment, and can respond rapidly to market demand. This seminar presents the design, development and plans for offering the new Systems Engineering program at Rowan University.

### Bio

Dr. Shreekanth Mandayam received the B.E. degree in Electronics Engineering from Bangalore University, Bangalore, India, in 1990 and the Ph.D. degree in Electrical Engineering (Communications and Signal Processing) from Iowa State University, Ames, in 1996. He is a Professor and Chair of Electrical & Computer Engineering at Rowan University in Glassboro, New Jersey. His research interests include multi-sensor data fusion, imaging and image processing, advanced visualization, and artificial neural networks applied to nondestructive evaluation. He directs the Virtual Reality and Nondestructive Evaluation Laboratories in the South Jersey Technology Park at Rowan University. Dr. Mandayam has served as the Vice President for Finance (2009-2010) and Chair of the Education Committee (2008-2009) for the IEEE Instrumentation & Measurement Society. He presently serves as the General Chair of the IEEE Sensors Applications Symposium ([www.sensorapps.org](http://www.sensorapps.org), Atlanta-2008, New Orleans-2009, Limerick-2010 and San Antonio-2011).



## **A Systems Engineering Overview; One Engineer’s Perspective from the Front Lines... - Dan Cocks, Lockheed Martin Corporation.**

### Abstract

As a follow-up discussion to the plans at Rowan University, this presentation gives a quick overview of what systems engineering is about and what makes it so hard to do. The objective is to foster some discussion and feedback from the audience on what an academic introduction to systems engineering should contain. Once you get past the INCOSE Handbook definition of systems engineering and the classic “V” chart, what pragmatic skills should students of systems engineering know as they prepare to enter the workforce?

### Bio

Dan Cocks is a Senior Fellow of Lockheed Martin Corporation and a Senior Principal Member of the Engineering Staff at Lockheed Martin - MS2 in Moorestown, NJ. Dan served four years as the Chief Architect of the U.S. Coast Guard Deepwater Modernization Program. Prior to this assignment, he served for eight years on the staff of the Director of Combat Systems Development. Dan has over 20 years of experience in systems engineering and software development using both functional and object-oriented methods. 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.





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**Directions to Rowan Hall/Glassboro Campus**

Rowan University is located in the southern New Jersey town of Glassboro, 18 miles southeast of Philadelphia. The campus is easily reached from the N.J. Turnpike, the Atlantic City Expressway or any of the Delaware River Bridges.

**From the North (Northern New Jersey, New York, etc.)**

Take the NJ Turnpike South to Exit 4 (73 North). In approximately 1 mile, take I-295 South. Follow I-295 to Route 42 South (Atlantic City). Exit Route 42 South onto Route 55 South. Follow Rte. 55 South to exit 50A (Glassboro-Mullica Hill). Take Route 322 East (2 miles) toward the campus. At the first light (Bowe Blvd./Heston Rd.), turn left. After you cross the railroad tracks, make a right on North Campus Drive. Parking lot D is the first lot on the left. Rowan Hall is the first building on the right.

**From Philadelphia**

Take the Walt Whitman or Benjamin Franklin Bridge to I-676 South toward Atlantic City. Shortly after I-676 becomes Route 42 South, exit right onto Route 55 South. Take Rte. 55 South to exit 50A (Glassboro-Mullica Hill). Take Route 322 East (2 miles) toward the campus. At the first light (Bowe Blvd./Heston Rd.), turn left. After you cross the railroad tracks, make a right on North Campus Drive. Parking lot D is the first lot on the left. Rowan Hall is the first building on the right.

**From the West**

Take I-95 to the Commodore Barry Bridge. Follow Route 322 East (15 miles) to the campus. Take Route 322 East (2 miles) toward the campus. At the first light (Bowe Blvd./Heston Rd.), turn left. After you cross the railroad tracks, make a right on North Campus Drive. Parking lot D is the first lot on the left. Rowan Hall is the first building on the right.

**From Central New Jersey**

Take Route 70 West to I-295 South. Follow I-295 to Route 42 South (Atlantic City). Exit Route 42 South onto Route 55 South. Follow Route 55 South to exit 50A (Glassboro-Mullica Hill). Take Route 322 East (2 miles) to the campus. Take Route 322 East (2 miles) toward the campus. At the first light (Bowe Blvd./Heston Rd.), turn left. After you cross the railroad tracks, make a right on North Campus Drive. Parking lot D is the first lot on the left. Rowan Hall is the first building on the right.

**From the East**

Take the Garden State Parkway to the Atlantic City Expressway. Take the Expressway West to Exit 38 (Williamstown). Turn left after exiting and follow Route 322 West (8 miles) to the campus. After you pass the large Rowan sign on your left, continue on 322 toward the traffic light (Bowe Blvd./Heston Rd.), turn right. After you cross the railroad tracks, make a right on North Campus Drive. Parking lot D is the first lot on the left. Rowan Hall is the first building on the right.



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**From the South (Maryland, Delaware, etc.)**

Take I-95 North to the Delaware Memorial Bridge. Take the N.J. Turnpike North to Exit 2 and take Route 322 East. At the first traffic light (3 miles) turn right and then bear left (.4 miles) to stay on Rt. 322. Continue on Rt. 322 (7 miles) to the campus (past junction for Route 55). At Bowe Blvd./Heston Rd., turn left. After you cross the railroad tracks, make a right on North Campus Drive. Parking lot D is the first lot on the left. Rowan Hall is the first building on the right.