Monthly Dinner and Lecture

Wednesday, 19 April 2023 (5:30 – 8:00 pm)

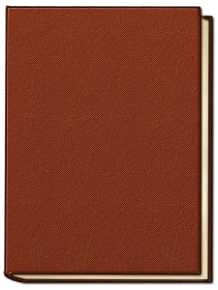
Using Systems Engineering to Design and Evaluate a Transparent and Accessible Vaccine Appointment and Delivery System

Douglas Bodner, PhD, PE; Stephen J. Sutton, ESEP

*This will be a **Hybrid Event**: Both In-Person & On-Line Lecture.*

In-Person Location: JHU/APL - Parsons Auditorium; 11100 Johns Hopkins Rd, Laurel, MD 20723

Presentation: Media reports and our own experience showed that coronavirus pandemic vaccine delivery to people's arms, at least in the US, did not meet expectations. While the rate of production and distribution continued to increase, those eligible to receive the vaccine remained confused or uninformed about how they obtain an appointment to ensure they can get vaccinated on a specific date at specific time. This presentation defines a system that permits any resident of a state (of the United States), no matter his/her place of residence or access to technology, to obtain a vaccine appointment for the initial vaccine dose, the second dose (if needed), and a booster dose and maintains the vaccine record for the resident. We present this definition in the form of operational needs, SysML artifacts (Use Cases with Use Case Narratives, Context Diagram, Requirements Diagram, and Activity Diagrams), Measures of Effectiveness (MOEs). Further, we present an initial simulation to evaluate how the system might perform under a given scenario and assumptions. The definition doesn't include a specific implementation but provides a reference model for any government entity wanting to improve its current system for delivering any vaccine, not just the COVID-19 vaccine, into arms. The authors conduct this project under the auspices of the INCOSE Critical Infrastructure Protection and Recovery Working Group.



Door Prize for this month
TBD

Speakers: Doug Bodner is a principal research engineer at the Georgia Institute of Technology, where he conducts research on systems engineering methods and analysis applied to supply chains, health delivery, infrastructure, and other systems.

Stephen J. Sutton retired in 2011, directed the systems engineering education programs at the University of Maryland until 2014, and now provides pro bono systems engineering services to non-engineering problems.

Menu: Roost Crispy Chicken Sandwich [crispy fried chicken, pickles, roost sauce, brioche] Garlic Steak Fries; Vegan Plant-Based Tenders with sriracha ketchup; Spring Chopped Salad; Beverage: a variety of cans of soda and tea.

Eventbrite GET TICKETS NOW

Dinner Cost: **$20** early bird registration a week before the event, **$25** afterward. Visit our registration webpage for details https://incose-cc.eventbrite.com |
Presentation ONLY: FREE at 7 pm in Parsons Auditorium. Webcast Link will be sent to those registering for online access.

Corporate Sponsor: We wish to thank the Applied Physics Laboratory for supporting the systems engineering profession through the use of their facilities.

Search "INCOSE Chesapeake" on YouTube for all Monthly Lectures

Our Evening's Agenda

5:30 – 6:00 pm	**Arrival and Socializing**
6:00 – 6:45 pm	**Dinner**
6:45 – 6:55 pm	**Chapter Meeting**
7:00 – 8:00 pm	**Lecture**

Directions: **JHU APL**, 11100 Johns Hopkins Road, Laurel, Maryland 20723, Phone (443) 778-5000
See APL's Visitor Guide for more: https://www.jhuapl.edu/About/Directions

From Washington DC and Capital Beltway (I-495):

Take I-95 North toward Baltimore, 10 miles to Columbia exit (MD Route 32 West),

Go 2.5 miles to the Washington DC exit (US Route 29 South).

Go 1.5 miles south and take Johns Hopkins Road exit (bear right at the top of the hill).

Or from the Capital Beltway (I-495):

Take US Route 29 North (Colesville Road) 10 miles and follow signs for the turn onto Johns Hopkins Road.

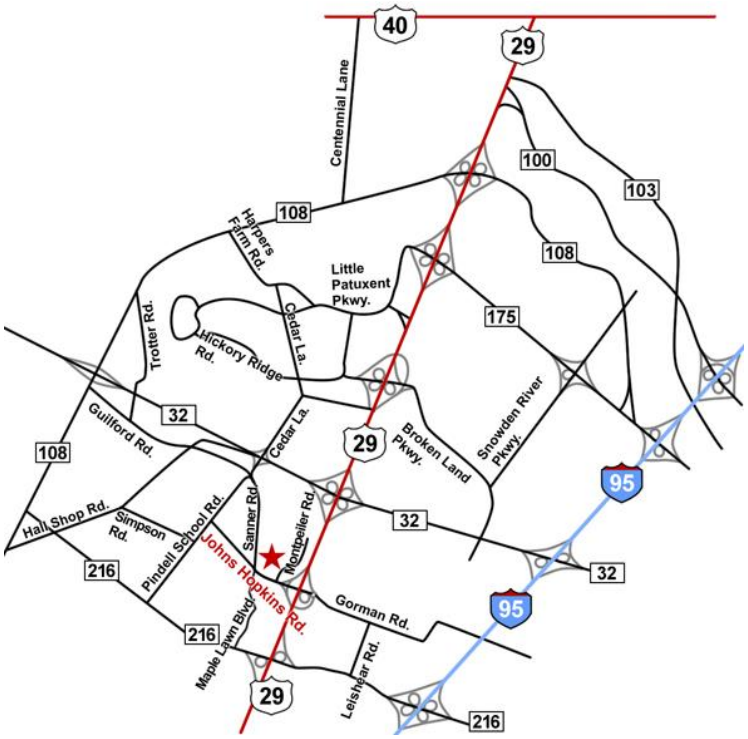
From Baltimore and Baltimore Beltway (I-695):

Take I-95 South toward Washington DC.

Go 13 miles and take Columbia exit (MD Route 32 West).

Go 2.5 miles and take Washington DC exit (US Route 29 South).

Go 1.5 miles south and take Johns Hopkins Road exit (bear right at the top of the hill).



Once you're on Johns Hopkins Road:

APL is a half-mile west of US Route 29 on your right side. Go past the first entrance, continuing past the pond and take the next right turn onto a tree-lined lane. Park in the visitor's lot on your left side. Enter at the main entrance marked **Building 1** (flagpoles and traffic circle in front).

Dinner is held in the Howard County Room #3 located at the end of the cafeteria hallway to the right of the entryway just before the Guard's desk.