



21 November 2019 Meeting!

Kennesaw State University
Marietta, Georgia

“AI for SE, SE for AI”

Tom McDermott

Stevens Institute of Technology

Abstract

Imagine yourself as lead system engineer on a future program, faced with a difficult set of trades and decisions on a path forward to a complex solution. As you converse with a set of mechanical, electrical and software engineers on your options, a new member of the team - DAISY - joins the conversation. DAISY is a "Digital adviser using Augmented Intelligence for SYstems engineering". She is the latest technological advancement in the Artificial Intelligence community, specifically designed to automate many of the mundane data exploration and engineering calculation tasks driving long schedules into historical engineering development programs. While the team explores different creative design solutions, DAISY runs millions of scenarios, searching for a solution that optimizes the product within a broad range of program lifecycle constraints. Your meeting ends not with a set of actions to run more engineering simulations and candidate design trades, but with a set of potential solutions in hand that can be immediately proposed to program management. DAISY is a new type of Augmented Intelligence - an engineering assistant developed to automate many of the data and computationally intensive activities of a typical engineer.

How realistic is DAISY, what technologies will produce her, and how will these impact the life of today's systems engineers? These are questions being explored by the International Council on Systems Engineering (INCOSE) Future of Systems Engineering (FUSE) team. Studies on the future of AI predict automation of many data and knowledge intensive tasks, but less support to tasks relying on creative intelligence, social intelligence, and physical manipulation and perception of design. These are core skills of the systems engineer. DAISY's ability to perform Systems Engineering tasks will free up systems and other engineers to focus much more time on product innovation and team collaboration. DAISY will automate many product evaluation and evidence building tasks, creating higher quality systems in much less time. DAISY will continuously look out across product lifecycles to create scenarios that lead to more holistic decisions. DAISY will work for any and all domains and industries from aerospace and defense to medical and transportation. But DAISY will not be replacing systems engineers in the near future, just enabling and assisting them. What do you think the Future of SE will look like? Join this interactive discussion

Speaker Bio

Mr. Tom McDermott is a Systems Engineering consultant, practitioner, and research leader involved in a number of forward-leaning systems engineering initiatives. He serves as the Deputy Director of the Systems Engineering Research Center (SERC) at Stevens Institute of Technology in Hoboken, NJ. The SERC is a University Affiliated Research Center sponsored by the Office of the Secretary of Defense for Research and Engineering. With the SERC he develops new research strategies and is leading research on Digital Engineering transformation, education, security, and artificial intelligence applications. Mr. McDermott also teaches system architecture concepts, systems thinking and decision making, and engineering leadership. He is a lecturer in Georgia Tech's Professional Education college, where he leads a masters level course on systems engineering leadership and offers a number of continuing education short courses. He consults with a number of organizations on enterprise modeling for transformational change, and often serves as a systems engineering expert on government major program reviews.



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Agenda:

5:30-6:00 pm Social (Pizza, beverages), Remarks from Chapter President
6:00-7:00 pm Program

Venue:

Kennesaw State University
Bldg Q, Room Q204
Marietta, GA 30063

Note:

For those that missed the October meeting, I still have 3 copies of the book “Steam Coffin” by John Laurence Busch (\$30 discounted from cover price of \$35)

- PARTICIPANT GlobalMeet Join Details - Join as GUEST

Meeting Details Web Address: https://incose.pgimeet.com/INCOSE_GMFIVE5

Access Number: 1-605-475-5605

Participant Passcode: 278 287 4159