**IEEE Systems Council Technical Committee on Systems Engineering Methods**

Friday, 14 October 2021 | 11:00 AM – 12:00 PM (ET)

Virtual via Zoom

**Attendees:** Edward Addy, Amir Aghdam, Philip Anton, Peter Beling, Paolo Carbone, Tim Cathcart, Andy Chen, Jose Contreras-Vidal, Rosa Delgado, Steve Doskey, David Eng, Nelson Fonseca, Prasanta Ghosh, Sidney Givigi, Paul Hershey, Mike Hinchey, Rich Hochberg, Steve Holt, Robert Lyons, Tom McDermott, Cecilia Metra, Chandru Mirchandani, Amir Mortazawi, Bozenna Pasik-Duncan, Vincenzo Piuri, Byron Purves, Arthur Pyster, Bob Rassa, James Ritchie, Jerzy Rozenblit, Roy Sterrit, Dinesh Verma, Rob Vingerhoeds, Mark Wehde, Stephanie White

**Staff:** Amanda Osborn, Dana Mallett

**Welcome - White**

Stephanie White welcomed the attendees and reviewed the purpose of the Systems Engineering Methods Technical Committee and the meeting. Stephanie introduced the speakers: Dinesh Verma, Executive Director, Systems Engineering Research Center (SERC), a University Affiliated Research Center (UARC) of 22 universities; and Art Pyster, Chair, BKCASE Governing Board for Systems Engineering Body of Knowledge (SEBoK) & Graduate Reference Curriculum on Systems Engineering (GRCSE).

**SERC/AIRC Overview – Verma, McDermott, and Anton**

Dinesh Verma, Tom McDermott and Philip Anton discussed the goals, activities, and research occurring within the U.S. Department of Defense sponsored SERC and recently created Acquisition Innovation Research Center (AIRC), hosted within the SERC.

These slides will be distributed.

Dinesh suggested the following ideas for collaboration and invited attendees to SERC workshops and the SERC Annual Research Review is taking place Nov. 2-4, 2021.

1. The SERC is often asked to conduct research on tasks that require engagement with systems engineers and others in industry and government. Collaboration between SERC and the IEEE Systems Council on such tasks would be for mutual benefit.

Current examples include the following:

* Development of outcome based metrics for Digital Engineering;
* Systems Engineering Modernization – a Handbook for Program Managers
* Digital Engineering – Strategy to Implementation
* Digital Data Strategy to underpin Acquisition

2. The SERC is often asked to organize research workshops on emerging topics of increased interest to the sponsors. Examples of workshops being planned for the Fall 2021 and Spring 2022 timeframe include:

* Research workshop on Reference Architectures for Autonomous Systems;
* Research workshop on AI for SE; and SE for AI;
* Research workshop on System Assurance and Trust with Autonomous Systems

The SERC would like to work with IEEE Systems Council to engage the right participants from Industry for these workshops.

3. The SERC has developed partnerships with selected organizations (e.g., Raytheon, MITRE, The Aerospace Corporation, Boeing), called the SERC Doctoral Fellows Program. As part of this program:

* These organizations selected a very small number of their current employees (between 1 and 5) to pursue doctoral level research at one of the SERC universities;
* The participants get to do research in fields of strategic interest to the DoD; and become active members within the research community; they attend the annual SERC Research Review to present their research progress;
* The sponsoring organizations agree to support their employees in this regard – with tuition reimbursements and 20% or more release time to facilitate research.

Some IEEE Participants and their Corporations may be interested in such an arrangement enabling the Participant to earn a Ph.D. and the Corporation to gain from the research.

ACTION ITEM: Please send Stephanie and Dinesh an email if you are interested in any of these collaboration opportunities.

**BKCASE Overview – Pyster**

Art Pyster reviewed the history and purpose of the Body of Knowledge and Curriculum to Advance Systems Engineering (BKCASE). The primary product that has been created is SEBoK (Guide to the Systems Engineering Body of Knowledge). GRCSE (Graduate Reference Curriculum for Systems Engineering) is in a preliminary stage, and is not currently in development.

SEBoK is sponsored and supported by INCOSE, the Systems Council, and Stevens University. It has an eight-part structure and is updated about every six months.

Part 6 of SEBoK is titled “Enabling Systems Engineering”. Art is looking for authors for the following Part 6 Articles and is seeking authors from the Systems Engineering Methods Technical Committee and its community.

* SE and System Software Assurance
* SE and Civil Engineering
* SE and Aerospace Engineering
* SE and Electrical Engineering

ACTION ITEM: Art to send a complete list of subjects for which SEBoK is looking for authors.

A discussion was held on future collaboration between the SEM TC and SEBoK. If attendees are interested in participating, send Art and Stephanie an email.