

INTERNATIONAL COUNCIL ON SYSTEMS ENGINEERING

CENTRAL VIRGINIA CHAPTER

www.incose.org/central-virginia

Jun 2021

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Cordially invites you to attend a dinner and presentation by:

Eileen B. McConkie, PhD
System Engineer

Topic:

Mathematical Properties of System Readiness Levels

At:

Park Lane Tavern

Spotsylvania Towne Centre, 1 Towne Centre Boulevard, Fredericksburg, VA
(see map)

Wednesday, 23 June 2021

Times: Social (Cash Bar)	1800	(Everyone Welcome)	
Dinner	1830	Charge: INCOSE Members:	\$15.00
		Non-Members:	\$20.00
Presentation	1930	Students:	\$12.00

Menu: A variety of dinner choices are available for the given price and one coffee, tea or soft beverage.

Price: The cost for members is \$15 including 9% tax and 18% tip. The cost for a nonmember or guest is \$20. Full time students will be charged the reduced rate of \$12.

Contact: Email: Rod Cutright, (540) 653-6580, Roderick.cutright@gmail.com or Anthony Sirico Anthony.Sirico@colostate.edu to make your reservation.

We ask you to help us out by reserving early. You can always cancel later if things change so you cannot make it. Please come out and support this event so that the Chapter can continue to hold meetings in Fredericksburg on occasion. Thank you.

Topic: System engineers use qualitative and quantitative measurements in their work. The use of quantitative measurements is growing; however, the mathematical rigor behind these measurements is rarely done or presented in the literature. Without the mathematical rigor misleading results can occur. System readiness level (SRL) has been introduced as a quantitative measurement to aid in the system engineers and program managers decision-making. The SRL was first developed by Sauser et al [2006] and is continuing to be developed and refined, by Sauser and others. The SRL is defined as a function of technology readiness level (TRL) and integration readiness level (IRL), both of which are ordinal ranking numbers. This presentation will discuss five mathematical properties that if adhered to would increase the mathematic rigor behind the SRL

The Speaker: Dr. Eileen Mcconkie is a System Engineer with Johns Hopkins University, Applied Physics Laboratory. Dr. Mcconkie has over 30 years of experience with the federal government, industry, and academia. Before coming to JHU APL, Dr. McConkie was lead System Engineer for NAVSEA Warfare Center Fleet Engagement Community of Practice, Served as the USA (continued)

Business Meeting: A short INCOSE business meeting will be held after the presentation to discuss and update on Chapter initiatives and business.

The Speaker (continued): technical representative and lead for the Force Level Open Architecture Technical standards (FLOATS) task in support of the Maritime Theater Missile Defense, Lead System Engineer for the Missile Defense Agency Joint Integrated Air and Missile Defense and Safety Engineer for Gun Weapon Systems. Dr. Mcconkie has a PhD in Systems Engineering, a MS in System Engineering, and a BS in Mechanical Engineering.



President's Corner: In March 2020, because of COVID 19, we were restricted from gathering in public meeting places and now it has been a year and three months. Much has happened over this period of time. We, as a Professionand Society, through our own resolve, have continued to contribute to the Nation's defense and further the

integration of science, technology, engineering and mathematics (STEM) in problem solving. Our INCOSE, has survived and managed to field a new slate of officers, communicate via emails and zoom while waiting for the scientific solution to the pandemic to take effect. This is our first Newsletter since the pandemic, and I want to thank two people, our past president Eileen McConkie for her support during the pandemic and the new Vice President, Anthony Sirico, for his assistance and tenacity this last year. As we resume normalcy with no COVID 19 restrictions, it is now possible to resume meeting in person and a dinner meeting has been scheduled at Park Lane Tavern, June 23, 2021. Dr. Eileen McConkie will be our presenter. She has been with INCOSE for several years and many of you know of her work and teaching from the Dahlgren Community.

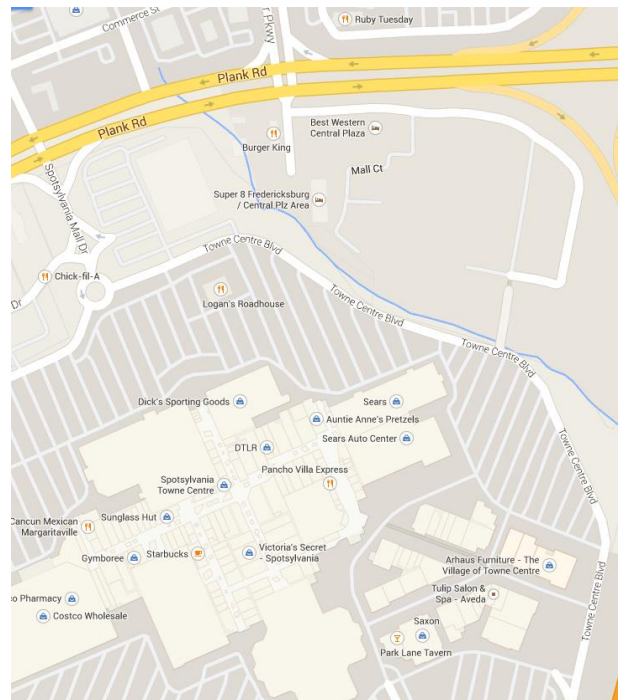
Want to get more involved? The Chapter is looking for people who want to do more for the Chapter. There are Chapter committee positions that need people to fill them. There are Chapter positions suited for those who can make small or large commitments. Contact the Chapter President for information or attend one of the regularly scheduled Dinner or Executive Committee meetings.

To get information on leadership responsibilities go to the Central Virginia Chapter website to view the Bylaws and Constitution, <http://www.incose.org/central-virginia/>.

The International Council on Systems Engineering (INCOSE) is a not-for-profit membership organization founded in 1990. Our mission is to advance the state of the art and practice of systems engineering in industry, academia, and government by promoting interdisciplinary, scalable approaches to produce technologically appropriate solutions that meet societal needs.

Order Coffee Cups with Chapter Logo: The Chapter will have some coffee cups with the new Chapter logo imprinted on them for mementos for our meeting speakers and for responding members, in the near future. If you would like us to include you on this order, contact Ajoy Muralidhar (see front page). The approximate (at cost) price will be \$11 if you pick the cup at a meeting.

Map to Park Lane Tavern: Get off Interstate 95 at Exit 130 and go west on Route 3 (Plank Road) and turn left into Spotsylvania Towne Centre Mall. At roundabout go left on Towne Centre Blvd and follow it around to the back of the Mall where one turns right to get to the restaurant as shown on map.



9th Annual Stem Summit: The 9th annual STEM Summit was held on Feb 29, 2020, and was a huge success. I would like to thank David and Rebecca Kreider, Ajoy Muralidhar, John Maresco, Matt Iglesias, and Greg Buchanan for their assistance in manning the INCOSE booth and discussing career choices with the students. The next Summit may be held virtually.

POC: Dr. Gregory Chambers, gchambers426@msn.com.

Interested In Becoming an INCOSE Member?

If you would like more information about the international Council on Systems Engineering (INCOSE) or you are interested in obtaining information about becoming a member, please contact any of the members of the Executive Committee of the Central Virginia Chapter. Their names and contact information are listed in the "letterhead" located on the first page.

Science Fair Judges and Supporters: On March 4, 2020, the Chapter presented awards at the Virginia Piedmont Regional Science Fair (VPRSF).

The awards consisted of a certificate and check. The first place award was \$100, the second place was \$75 and third place award was \$50, along with Certificates. Dan Vavrick, Director and Science Fair Committee Chairman attended the Regional Fair as judge.

The Section plans on giving awards again to the Regional and State Science Fairs as fairs come back to normal operation.

If interested in volunteering or wish for more information on opportunities to participate in Science events, please contact Dan Vavrick or any INCOSE Officer.

The Piedmont Regional Science Fair Web site address is <http://www.vprsf.org/register.htm> to sign up to be a judge, The 2020 Virginia State web site is <http://www.vssef.org>.

.From the Desk of the Editor: If you are not on our Chapter's newsletter emailing list, please send me an email and I will make sure to get your name on the list. You will then get all future newsletter and meeting announcements. My contact info is on front page.

Again, I want to remind the membership of the efforts that go into organizing a meeting and the efforts of the speaker to prepare his/her presentation. These dinner meetings can only continue with your support. The Officers of the Chapter will continue to arrange excellent programs and the Chapter will continue to greatly subsidize the cost of the meal for all attendees.

I hope that you decide to support this engineering event, of which there are only a few per year. Also, I hope to meet you and get to know you.

Meeting and Events Schedule:

Future Meetings and Events:

Jun 23, 2021, 1800: Chapter Dinner Mtg; Loc: Park Lane Tavern, Fredericksburg; Spkr.; Eileen B. McConkie; Topic: Mathematical Properties of System Readiness Levels; Coord: Rod Cutright

Aug TBD, 2021, 1800: Chapter Dinner Mtg; Loc: Park Lane Tavern, Fredericksburg; Spkr.; Anthony Siric; Topic: Graduate Research; Coord: Rod Cutright

Past Meetings and Events:

Jan 15, 2020, 1800: Chapter Dinner Mtg; Loc: Park Lane Tavern, Fredericksburg; Spkr.; Gordon J. Gattie; Topic: What Were You Thinking? Investigating Human

Judgement Through Probabilistic Functionalism; Coord: Eileen B. McConkie

May, 21 2019, 1800: Chapter Dinner Mtg; Loc: Park Lane Tavern, Fredericksburg; Spkr.; TBD; Topic: A General Theory of System Safety; Coord: Alan Brown

Mar 26, 2019, 1800: Chapter Dinner Mtg; Loc: Park Lane Tavern, Fredericksburg; Spkr.; George Meadows; Topic: From Virtual to Physical and Back Again: 3D printing and Augmented Reality; Coord: G Chambers

Feb 19, 2019; 1800; Chapter Dinner Mtg; Loc: Park Lane Tavern, Fredericksburg; Spkr: Gil Goddin.; Topic: Complex System of Systems Control Hierarchy; Coord: Ajoy Muralidhar

May 29, 2018; 1800; Chapter Dinner Mtg; Loc: Park Lane Tavern, Fredericksburg; Spkr: Gil Goddin.; Topic: Systemic Risk Analysis for Complex Systems; Coord: Ajoy Muralidhar

Apr 25, 2018; 1800; Cancelled; Chapter Dinner Mtg; Loc: Park Lane Tavern, Fredericksburg; Spkr: John Seel.; TBD;; Coord: Ajoy Muralidhar and Dr. Eileen McConkie

Mar 27, 2018; 1800; Chapter Dinner Mtg; Loc: Park Lane Tavern, Fredericksburg; Spkr: Mr. John Fiore, SES.; Topic: Technical Rigor in a Multi-Sponsor Organization; Coord: Ajoy Muralidhar

Feb 27, 2018; 1800; Chapter Dinner Mtg; Loc: Park Lane Tavern, Fredericksburg; Spkr: Don S. Gelosh, Ph.D., CSEP-Acq.; Topic: Introduction to INCOSE Institute for Technical Leadership; Coord: Ajoy Muralidhar and Dr. Eileen McConkie