

# IEEE Systems Council Technical Operations

Walt Downing

AdCom Meeting, April 26, 2018

JW Marriott Parq Hotel

Vancouver, British Columbia, Canada



# Possible Areas of Collaboration with INCOSE

## *Interaction with Dick Fairley*

- ❑ Share newsletters and email announcements
- ❑ Invite opposite members to meetings and presentations
- ❑ Invite opposite members to make presentations at chapter meetings
- ❑ Offer member rates in events
- ❑ Explore collaboration on projects of common interest to some members of each group
- ❑ Create special interest groups for topics of common interest
- ❑ Co-sponsor local and regional events
- ❑ Encourage “branding” of both organizations at co-sponsored events
- ❑ Provide samples of back editions of various publications at these events
- ❑ Propose and co-edit special issues of transactions for topics of interest to both groups
- ❑ Encourage groups to join together to write papers for newsletters for topics of shared interest
- ❑ Encourage groups to work together on development of relevant standards and guidelines

# Existing Technical Committees

## *8 Technical Committees*

- ❑ Analytics and Risk
- ❑ Cyber-Physical Systems
- ❑ Human Systems Integration (Added in 2017)
- ❑ Intelligent Transportation Design
- ❑ Networked Systems
- ❑ Security and Privacy in Complex Information Systems
- ❑ Systems Biology and Biomedical Systems
- ❑ Systems Education (Added in 2017)

# Analytics and Risk Technical Committee

*Deshing “Dash” Wu, Chair*

- ✓ Leadership in place
- ✓ Web presence established
- ✓ Holding meetings
- ✓ Conducted annual Symposium on Analytics and Risk, July 7-9, 2017, Shanghai, China
- ✓ Discussing collaboration with INCOSE Risk Management Working Group (Bob Parro)
- ✓ Planning to meet at SYSCON

*Summary – Well established technical committee with good activities.*

# Cyber-Physical Systems Technical Committee

*Shiyan Hu and Albert Y. Zomaya, Co-Chairs*

- ✓ Leadership in place (5-person executive committee)
- ✓ Relatively large membership
- ✓ Extensive web presence on IEEE website – linked from Systems Council website
- ✓ Publications
  - ✓ Semiannual newsletter (Last issue February 2018)
  - ✓ Multiple proceedings and special issues
- ✓ Upcoming Conference
  - ✓ IEEE International Workshop on Smart Energy Cyber-Physical Systems, August 1-3, 2018
- ✓ Awards program
  - ✓ Technical Achievement Award
  - ✓ Distinguished Leadership Award
  - ✓ Mid-Career & Early-Career Awards
  - ✓ Ten-Year Retrospective Most Influential Paper Award
  - ✓ Industrial Technical Excellence Award
- ✓ Discussing collaboration with INCOSE Complex Systems Working Group (Jimmie McEver) and Software-Systems Interface Working Group (Dick Fairley)

***Summary – Well established and active technical committee following many best practices.***



# Human Systems Integration Technical Committee

*Holly Handley, Chair*

- ✓ Leadership in place
- ✓ Initial web presence established
- ✓ Membership roster is large, but only small number are actively participating
- ✓ Will reconfirm member interest
- ✓ Collaboration with INCOSE
  - ✓ Interaction with INCOSE Working Group (Guy Boy)
  - ✓ Planning HSI conference in Houston, TX in September 2019
- ✓ Human Systems Integration Special Session at SYSCON 2018
- ✓ HSI Technical Committee meeting at SYSCON 2018

*Summary – New technical committee in 2017.*

# Intelligent Transportation Design Technical Committee

*LaMont McAliley, Chair?*

- ✓ Leadership questionable
- ✓ Web presence established, but information is very dated
- ✓ Held meetings early on, but none reported since late 2016
- ✓ No active members

*Summary – Activity and membership seem to have fallen off. Reaching out to chair, but no response. Committee appears to be inactive and recommend disbanding.*

# Networked Systems Technical Committee

*Rob Riley, Chair*

- ✓ Leadership in place
- ✓ Web presence established and updated earlier this year
- ✓ Last meeting held at IEEE NetSciCom Workshop on 1 May 2017 in Atlanta, GA
- ✓ Next meeting planned on 3 May 2018 in Rome, NY (Mohawk Valley Chapter)
- ✓ Talk entitled “Network Science-based Metrics for Quantification of Link Stability for Mobile Sensor Networks” by Professor Natarajan Meghanathan
- ✓ Activities currently focused on networked systems for telecommunications

***Summary - Relatively well-established technical committee with limited activities and membership. Chair seeking suggestions for additional topics.***



# Security and Privacy in Complex Information Systems TC

*Pierangela Samarati, Chair*

- ✓ Leadership in place
- ✓ Web presence on IEEE website
  - ✓ Linked from Systems Council website
  - ✓ Information is dated (2016)
- ✓ Lack of information indicates that the TC is inactive

*Summary – Need to update information to stimulate membership and activities.*

# Systems Biology and Biomedical Systems TC

*Bernard Fong, Acting Chair*

- ✓ Chair most interested in Region 10 activities, such as workshops
- ✓ Web presence established, but information is very dated (2014)
- ✓ Apparently extremely small membership
- ✓ Chair wanted to conduct a workshop in Asia this fall to “kick-start” activities
  - ✓ Judy provided list of IEEE conferences in Asia this fall
  - ✓ Chair reviewed list and has “requested potential volunteers to help”
  - ✓ Latest information is that the workshop has been postponed to March 5-6, 2018 in Hong Kong
  - ✓ Claims to have support from IEEE Consumer Electronics Society and wants to get SysCon support
  - ✓ Seems to have little knowledge of how to organize an IEEE workshop

***Summary – Apparently not an active technical committee. Viability is questionable.***

# Systems Education Technical Committee

*Charles K. Pickar, Chair*

- ✓ Leadership in place
- ✓ Initial web presence established
- ✓ *The IEEE Systems Council Systems Education Technical Committee provides both a resource and forum for members to discuss and exchange ideas on systems related activities including systems thinking, systems engineering and system dynamics and how to promote and sustain these skills for both members and the larger engineering community. It is meant to be a location for members to discuss and share systems focused educational information, practice and new thinking. Ideally, we will be able to collect, refine and warehouse ideas and materials for members to share and use in any aspect of informing on systems thinking, education and engineering. While meant for all interested members, it will also serve as a repository for systems focused educational techniques, including systems engineering and system dynamics.*
- ✓ *Discussing collaboration with INCOSE Academic Council (Ariela Sofer)*

**Summary – New technical committee in 2017.**

# New Potential Technical Committees

- ❑ CubeSat – Need Chair
- ❑ Information Fusion – Need Chair
- ❑ Standards

# Standards Technical Committee – New Attempt

*Annette Reilly, Chair*

- ❓ I had agreed to take this on last year, but made no headway with it due to other commitments. I do think it would be worthwhile to share information about related systems standards underway among the IEEE Systems Council member societies. This could promote consistency, avoid duplicative standardization work, and bring more resources to bear on cross-cutting areas such as Internet of Things.
- ❓ So once again I will say yes, and attempt to clear some time to pursue setting up a Systems Council Standards Committee during 2017. Note, as I am retired and involved in IEEE activities as a volunteer, I have very limited funding to attend meetings and conferences unless there is IEEE reimbursement.

***Summary – Created a Call for Participation to Council Societies. Does not appear to have made any progress.***