

IEEE Systems Council Technical Operations

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Vienna Marriott Hotel

Vienna, Austria



Existing Technical Committees

10 Technical Committees

- ▶ Analytics and Risk
- ▶ Cyber-Physical Systems
- ▶ Human Systems Integration (New)
- ▶ Industrial Interface (Recommend elimination due to lack of interest and engagement)
- ▶ Intelligent Transportation Design
- ▶ Networked Systems
- ▶ Security and Privacy in Complex Information Systems
- ▶ Systems Biology and Biomedical Systems
- ▶ Systems Education (New)
- ▶ Workforce Development (Recommend elimination due to lack of interest and engagement)

Two new technical committees established 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

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 August 2017)
 - ✓ Proceedings of the IEEE Special Issue on Design Automation for Cyber-Physical Systems
 - ✓ IEEE Transactions on Sustainable Computing Special Issue on Sustainable Cyber-Physical Systems
 - ✓ IEEE Transaction on Big Data Special Issue on Big Data for Cyber-Physical Systems
- ✓ Conferences
 - ✓ 2nd IEEE International Workshop on Design Automation for Cyber-Physical Systems, June 18, 2017
 - ✓ Asian Hardware Oriented Security and Trust Symposium, October 19-20, 2017
 - ✓ IEEE Conference on Energy, Internet and Energy System Integration, November 26-28, 2017
- ✓ Awards program
 - ✓ 2017 Technical Achievement Award – Alberto Sangiovanni-Vicentelli, UC Berkeley
 - ✓ 2017 Distinguished Leadership Award – Tei-Wei Kuo, National Taiwan University
 - ✓ 2017 Early-Career Award – Qi Zhu, UC Riverside

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
- ✓ The Human System Integration technical committee focuses on identifying and improving methods to integrate human concerns into the conceptualization and design of systems. It encourages early understanding of human roles and responsibilities, along with limitations and constraints that may impact system design. It also investigates human performance models that augment model based system engineering processes to evaluate both system and human requirements.
- ✓ Conducting meetings
- ✓ Good start

Summary – New technical committee in 2017.

Industrial Interface Technical Committee

*Les Oakes, Acting Chair**

- ✓ Need new leadership
- ✓ Web presence established, but information is dated
- ✓ Recommend eliminating this technical committee

**Message from Les Oakes:*

The Industrial Interface Technical Committee has fallen apart and nothing was ever accomplished. After initial interest from eight IEEE members, we wound up with just three members and then just me. I had attempted to get it restarted from its previous failure, but I was also unsuccessful.

Nothing has gone on for at least a year. There was a professor from Canada who had expressed interest in resurrecting the committee, but I have had no replies to the emails I sent.

Intelligent Transportation Design Technical Committee

LaMont McAliley, Chair

- ✓ Leadership in place
- ✓ Web presence established, but information is slightly dated
- ✓ Holding meetings, but none reported since late 2016
- ✓ Relatively small membership

Summary – Activity and membership seem to have fallen off. Reaching out to Chair to see if he needs assistance.

Networked Systems Technical Committee

Rob Riley, Chair

- ✓ Leadership in place
- ✓ Web presence established and updated earlier this year
- ✓ Next meeting planned at IEEE NetSciCom Workshop being held on 1 May in Atlanta, GA
- ✓ 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 after some difficulty
 - ✓ Information is slightly dated (2016)

Summary – TC seems to be well-established, but 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.*

Summary – New technical committee in 2017.

Workforce Development Technical Committee

Richard Millham, Chair

- ✓ Leadership in place, but plans to relinquish the role in 2018
- ✓ Extremely small membership (2 people)
- ✓ Web presence established but outdated (last update August 2016)
- ✓ Recommend eliminating this technical committee

New Potential Technical Committees

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

Standards Technical Committee

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.