

# **SYSC Technical Committee on Cyber-Physical Systems: Activities in 2018**

**Professor Shiyan Hu**  
**Chair, IEEE SYSC Technical Committee on CPS**



# TC Membership Growth

- The membership page is at <http://www.ieee-cps.org/member.html>
- In 2017, there were only 40+ members.
- We now have more than 60+ members-at-large (from all of the world such as US, Canada, Germany, UK, Switzerland, Italy, Sweden, Denmark, France, Belgium, Turkey, Australia, China, Japan, etc), and the number of total members (see <http://www.ieee-cps.org/list.html>) reaches 120+. We are **3X** bigger now.
- 30+ IEEE Fellows
- About 15 current or former Editors-in-Chief of IEEE/ACM Transactions in different fields
- Our members span different societies and councils within IEEE such as Systems Council, Industrial Electronics Society, Computer Society, CEDA, Power and Engineering Society, SMC, Control Systems Society, etc.



## Journal/Conference Activities in 2018

- Organized special Issue on Design Automation for Cyber-Physical Systems in **Proceedings of the IEEE**, published in September 2018, where all of the four guest editors Alberto Sangiovanni-Vincentelli, Shiyan Hu, Xin Li, and Qi Zhu are TC members (or advisory board member).
- Organized DAC Workshop on Design Automation for Cyber-Physical Systems (DACPS), 2018, chaired by Qi Zhu. DACPS workshop was founded by the TC since 2016 and 2019 DACPS chair is Mohammad Al Faruque.
- IEEE RTCSA 2018, financial co-sponsor.
- Heavily involved in IEEE ICPS 2017 and 2018.



# Outreach

- General impact: the TC is becoming very popular in the broader CPS academic community. The visit to our TCCPS website since 2017 reaches **35,458** (as of March 17, 2019). The counter is shown in the main page of the TC at <http://www.ieee-cps.org/index.html>, maintained by Bei Yu, our web chair and newsletter editor.
- We are establishing the close collaboration with **IEEE IES Technical Committee on Industrial Cyber-Physical Systems** chaired by Prof. Armando Walter Colombo (our TC member-at-large), esp. in the initiatives of Cyber-Physical-Systems-of-Systems.
- For outreach to CPS-IoT Week, the TC conference chair Qi Zhu is the program chair for First Workshop on Design Automation for CPS and IoT (DESTION) 2019 at CPS-IoT Week. The general chairs are Alberto Sangiovanni-Vincentelli and Janos Sztipanovits, and a few TC members are in the TPC including Xin Li, Rolf Dresler, Shiyan Hu, Miroslav Pajic, etc.
- We are strengthening the collaboration with IET where Shiyan Hu is Editor-in-Chief of IET CPS: Theory & Application and a number of TC members are AEs. We are thinking of the possibility to establish IEEE/IET joint conferences.
- We are strengthening the collaboration with ACM Transactions on CPS. Its Editor-in-Chief is Kei-Wei Kuo, who is one of the five executive committee members of our TC.



# Task Force

- Through our collaboration with IEEE power and engineering society (PES), we have established a task force (i.e., a working group) under the umbrella of TCCPS, called Smart Distribution and Utility Task Force. See <http://www.ieee-cps.org/task-force-sdu.html>. This group of people have already published a white paper titled “The Active Control Theory of Safe Operation for Self-healing Power Distribution Networks” and they plan to actively perform more activities (e.g., organizing task force level workshops) in 2019.
- We are discussing with a couple of groups of experts to establish more task forces.



# CPS Newsletter

- <http://www.ieee-cps.org/letter.html>. The newsletter is published twice a year since 2016. The former Editors-in-Chief are Xin Li and Helen Li. Its new Editor-in-Chief is Bei Yu.

## Editor



**Bei Yu**  
Computer Science and Engineering  
Chinese University of Hong Kong  
Hong Kong  
Email: [byu@ese.cuhk.edu.hk](mailto:byu@ese.cuhk.edu.hk)

## Associate Editors



**Long Chen**  
School of Data and Computer Science  
Sun Yat-Sen University  
China  
Email: [chenl46@mail.sysu.edu.cn](mailto:chenl46@mail.sysu.edu.cn)



**Wuling Huang**  
Institute of Automation  
Chinese Academy of Science  
China  
Email: [wuling.huang@ia.ac.cn](mailto:wuling.huang@ia.ac.cn)



**Yier Jin**  
Electrical and Computer Engineering  
University of Florida  
USA  
Email: [yier.jin@ece.ufl.edu](mailto:yier.jin@ece.ufl.edu)



**Abhishek Murthy**  
Philips Lighting Research North America  
Cambridge, MA  
USA  
Email: [abhishek.murthy@philips.com](mailto:abhishek.murthy@philips.com)



**Rajiv Ranjan**  
School of Computing Science  
Newcastle University  
United Kingdom  
Email: [rajiv.ranjan@csiro.au](mailto:rajiv.ranjan@csiro.au)



**Muhammad Shafique**  
Department of Computer Engineering  
Vienna University of Technology  
Austria  
Email: [mshafique@ecs.tuwien.ac.at](mailto:mshafique@ecs.tuwien.ac.at)



**Yiyu Shi**  
Computer Science and Engineering  
University of Notre Dame  
USA  
Email: [yshi4@nd.edu](mailto:yshi4@nd.edu)



**Ming-Chang Yang**  
Computer Science and Engineering  
Chinese University of Hong Kong  
Hong Kong  
Email: [meyang@ese.cuhk.edu.hk](mailto:meyang@ese.cuhk.edu.hk)



■ **Thanks**

