

# **IEEE Technical Committee on Cognitive Networks (TCCN)**

## **Meeting at IEEE GLOBECOM 2017, Singapore**

**Held on 10:00am – 12:00 (mid-day, local time), Wednesday, 06 December 2017, Marina Bay Sands Singapore**

**Minutes prepared by**

**Yue Gao, Queen Mary University of London, IEEE TCCN Secretary**

**Linyang Song, Peking University, IEEE TCCN Vice Chair**

### **Agenda**

1. Welcome and introduction
2. Attendance register
3. Approval of the Agenda
4. Approval of the ICC 2017 (June 2017) TCCN meeting minutes
5. Reports on Special Interest Groups (SIGs)
  - a. Overview of new SIGs (Jianwei Huang)
  - b. Cognitive Network Security SIG, by K.P. (Suba) Subbalakshmi, Stevens Institute of Technology
  - c. Cognitive Radio for 5G SIG, by Diep Nguyen, University of Technology Sydney)
  - d. SIG: Data-Driven Cognitive Networks, by Chair: Li-Chun Wang, National Chiao Tun University
  - e. New SIG: AI Embedded Cognitive Networks, by Chair: Kai Yang, Tongji University
  - f. New SIG: Social Behaviour Driven Cognitive Radio Networks, by Chair: Li Wang, Beijing University of Post and Telecommunications
  - g. New SIG: Cognitive Communications and Networking in Cyber-Physical Systems, by Chair: Xianghui Cao, Southeast University
6. Reports on standards activities
  - a. IEEE DySPAN-SC/1900 activities, by Oliver Holland, King's College London
  - b. IEEE 802.22 activities, by Apurva Mody, BAE Systems
7. Reports on conferences
  - a. ICC 2018 Cognitive Radio and Wireless Networks Symposium, by Kai Zeng, George Mason University, USA
8. Reports on publications
  - a. Transactions on Cognitive Communications and Networking, by Michele Zorzi, University of Padova
  - b. TCCN Newsletter, by Walid Saad, Virginia Tech University
9. TCCN Awards
  - a. TCCN Publication Award, by Geoffrey Li, Georgia Institute of Technology
  - b. TCCN Recognition Award, by Ekram Hossain, University of Manitoba
10. Administrative matters
  - c. Report on website, by Vijay Rao, Delft University of Technology
  - d. LinkedIn and Facebook, by Zhijin Qin, Imperial College London
11. Next TCCN Meeting
12. Any other business

# **Meeting Minutes**

## **1. Welcome and Introduction**

The meeting convened at 10:00 local time.

Jianwei Huang introduced himself as Chair and the other Officers of TCCN. The meeting recorders were Yue Gao and Lingyang Song.

There was a quick introduction from each participant attending in the room.

## **2. Roll Call**

Attendance was taken by an attendance sheet which was passed round and completed/signed, given the high number of participants. TCCN provided the opportunity to participants to connect by remote means (GoToMeeting) to participate in the meeting. Participants by remote means were also captured in the attendance list, and verified by attendance records of the utilized GoToMeeting tool.

## **3. Approval of the Agenda**

The Agenda was presented by the Chair and Secretary. There were no objections, and no abstentions. The Agenda was moved by Li-Chun Wang, seconded by Lingyang Song. There were no objections, and no abstentions. The Agenda was unanimously approved.

## **4. Approval of the GLOBECOM 2016 (December 2016) TCCN meeting minutes**

Attention was drawn to the Minutes of the TCCN meeting at ICC 2017. There were no objections, and no abstentions. The Minutes were moved by Walid Saad and seconded by Yue Gao. There were no objections, and no abstentions. The Agenda was unanimously approved.

## **5. Reports on Special Interest Groups**

The Chair reminded attendees about the concept of Special Interest Groups (SIGs) within TCCN, including their purposes and characteristics.

K.P. (Suba) Subbalakshmi (Stevens Institute of Technology) sent her slides, which were presented by Jianwei Huang on behalf of Suba. The activities report for the SIG on Cognitive Security. Detail was provided about the blog on cognitive radio networking and security, and its Editorial Board, purpose, a new special issue call for papers, information on participation, among other items. There were no comments or questions.

Li-Chun Wang (National Chiao Tung University) presented the Data-Driven Cognitive Networks (D2CN) SIG. The presentation covered Data are collected from various sources, including radio channels, user locations, service access data, social networking data, network-status and management data and a revolution in CRN from a traditional knowledge- driven CRN into a more powerful data-driven CRN. This sig provides a platform on the development of DDCN, including key technologies, data sharing opportunities and future research directions.

Kai Yang, (Tongji University) presented the newly established SIG: AI Embedded Cognitive Networks. This SIG aimed to provide a platform for researchers, data scientists, computer scientists to share their ideas, key technologies, and latest results in the area of AI embedded cognitive networks.

Li Wang, (Beijing University of Post and Telecommunications) presented the newly established SIG: Social Behaviour Driven Cognitive Radio Networks. The presentation covered application

driven networks via AI and machine learning, social behaviours of mobile users trigger more social platforms and applications, and smart applications affect social behaviors of mobile users. This SIG aimed to provide a platform on the development of social behaviour driven CRNs to exploit and explore new dimensions.

Xianghui Cao, (Southeast University) presented the newly established SIG: Cognitive Communications and Networking in Cyber-Physical Systems (CPS). The presentation covered an interdisciplinary technology integrates various types of sensing, communication, actuation and computation devices to enable smart interaction between human beings and the physical world. This SIG aimed to concentrate on cognitive communications and networking in CPS and to provide a platform for researchers and practitioners to share their ideas, key technologies, and latest results in this area.

## **6. Reports on Standards Activities**

Oliver Holland (King's College London) presented a report the latest status of the IEEE COM/SDB, DySPAN-SC IEEE 1900 Standards Working Groups, and the IEEE 1900 working groups, their topics and purposes, their latest activities, and other items.

## **7. Reports on conference (ICC 2018)**

Kai Zeng, (George Mason University) quickly overviewed some detail on the Cognitive Radio and Networks Symposium of IEEE ICC 2018. This covered items such as on the conference parameters, location, number of papers submitted (83), etc.

## **8. Reports on publications (Transactions on Cognitive Communications and Networks, TCCN Newsletter)**

Michele Zorzi (University of Padova) presented an update on the IEEE Transactions on Cognitive Communications and Networks. Extensive detail was provided on aspects such as the aim and scope, editorial board, current status of published editions.

Walid Saad (Virginia Tech) presented the TCCN Newsletter update on behalf. Items such as its purpose of the newsletter, detail on the published issues including the latest issue and the interesting topic of Q&As for some key people working in areas of TCCN. It also presented some as ideas for future issues.

## **9. TCCN Awards**

TCCN Publication Award presented by Geoffrey Li, Georgia Institute of Technology, was awarded to Khaled B. Letaief and Wei Zhang. TCCN Recognition Award presented by Jianwei Huang, The Chinese University of Hong Kong, on behalf of award committee chair, Ekram Hossain, was awarded to Ian F. Akyildiz.

## **10. Administrative matters**

### **a. Report on LinkedIn and Facebook,**

Zhijin Qin (Lancaster University) presented an update and reminder on TCCN LinkedIn and Facebook. This provided detail on some of the updates to the LinkedIn and Facebook groups. The post on the LinkedIn group should be made to the public.

### **b. Report on website**

Vijay Rao (Delft University of Technology) sent his slides, which were presented by Jianwei Huang on behalf of Vijay. The presentation covered an update and reminder on the capabilities

of the TCCN website, with the slide set available here. This provided detail on some of the updates to the website (e.g., new content such as the Newsletter, having been added), its listing on Google, and a call for content, among other items. There were no questions on this presentation.

### **11. Next TCCN Meeting**

It was announced that the next meeting will be in the IEEE ICC 2018 conference (20-24 May 2018, Kansas City, USA).

### **12. Any Other Business**

As the meeting was ahead of time on this occasion, the Chair and Secretary attempted to inspire a discussion on appropriate future topics for SIGs, Symposium Chairs recommendation, DL and Fellow recommendations. This discussion continued for some 20 minutes.

The meeting adjourned at 12:00.