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

**Chair: Yue Gao**

[yue.gao@ieee.org](mailto:yue.gao@ieee.org)

**Queen Mary University of London**

# Officers (2019-2020)



- **Chair**

- Yue Gao, Queen Mary University of London, UK

- **Vice-Chairs**

- Oliver Holland, Kings College London, UK (Europe/Africa)
- Lingyang Song, Peking University (Asia Pacific)
- Daniel Benevides da Costa, Federal University of Ceará, Brazil (Americas)

- **Secretary**

- Lin Gao, Harbin Institute of Technology, Shenzhen, China

# Agenda



- **Welcome and Introduction**
- **Attendance Register**
- **Approval of the Agenda**
- **Approval of the ICC 2019 (May 2019) TCCN meeting minutes**
- **Discussion and approval of the TCCN Policies and Procedures (P&P)**
- **TCCN awards**
  - TCCN Publication Award, by Wei Zhang, University of New South Wales, Australia
  - TCCN Recognition Award, by Octavia Dobre, Memorial University, Canada
- **Reports on conferences**
  - GLOBECOM 2019 Cognitive Radio and AI-Enabled Networks Symposium, by Daniel B. da Costa, Federal University of Ceará, Brazil
  - ICC 2020 Cognitive Radio and AI-Enabled Networks Symposium, by Kai Yang, Tongji University, China, or Georgios Ropokis, CentraleSupélec, Campus Rennes

# Agenda (Cont.)

- **Reports on publications**
  - Transactions on Cognitive Communications and Networking, by Ying-Chang Liang, University of Electronic Science and Technology of China
  - TCCN Newsletter, by Daniel B. da Costa, Federal University of Ceará, Brazil
- **TCCN publicity**
  - Report on website, by Vijay Rao, Delft University of Technology, the Netherlands (Presented by Prof. R. Venkatesha Prasad)
  - LinkedIn and Facebook, by Yuan Ma, Shenzhen University, China
- **Reports on Special Interest Groups (SIGs)**
- **Next TCCN Meeting**
- **Any other business**
- **TCCN nominations**
  - ICC/GC Symposium Chairs
  - IEEE ComSoc Distinguished Lecturers
  - IEEE Fellow (endorsement)
- **How to get involved in TCCN**

# TCCN Awards



- **TCCN has two awards**
- **IEEE ComSoc TCCN Recognition Award**
  - The recognition award is given to (up to) one individual who is deemed to have made significant and sustained contributions to cognitive network community. The intent is to recognize contributions over a period of time via any of the following modalities including combinations thereof:
    - **Scholarly excellence** in cognitive network research as evidenced by publications, patents and hardware/software prototypes;
    - Technical or scholarly leadership as evidenced by contributions to standards, patents, leading research, and/or significant project management;
    - Meritorious service to the cognitive network community inclusive of IEEE ComSoc, industry and government policy.
- **IEEE ComSoc TCCN Publication Award**
  - The recognition award is given to (up to) one individual or group who are deemed to have made outstanding technical contributions to TCCN. The basis of judgment will be archival, peer-reviewed publications in ComSoc conferences and journals over any period prior to the award year.

# TCCN Award Procedures



- **Two awards are overlapping in the area of Scholarly excellence**
- **To avoid confusion, propose to remove “scholarly excellence” from recognition award**
- **IEEE ComSoc TCCN Recognition Award:**
  - Technical or scholarly leadership and meritorious service to the cognitive network community
- **IEEE ComSoc TCCN Publication Award:**
  - Outstanding technical contributions to TCCN as evidenced by publications.

# IEEE ComSoc TCCN Recognition Award 2019



- **TCCN Recognition Award Committee**
- **Chair:**
  - Octavia Dobre (Memorial University, Canada)
- **Members:**
  - Y.-C. Liang (UESTC, China)
  - K. P. (Suba) Subbalakshmi (Stevens Institute of Technology, USA)
  - Rahim Tafazolli (University of Surrey, UK)
  - Qian Zhang (Hong Kong University of Science and Technology, China)

# Technical Committee on Cognitive Networks (TCCN) Meeting



The IEEE Technical Committee on Cognitive Networks (TCCN) is proud to present the **2019 TCCN Recognition Award** to

## **Professor Geoffrey Ye Li**

**for outstanding contributions to cooperative  
signal processing in cognitive radio**

**Yue Gao  
IEEE TCCN Chair  
December 2019**

**Octavia Dobre  
TCCN Award Committee Chair  
December 2019**



# Technical Committee on Cognitive Networks (TCCN) Meeting

## TCCN Recognition Award Winner: Geoffrey Ye Li

Dr. Geoffrey Ye Li is a Full Professor and the Director of the Information Transmission and Processing (ITP) Lab in the School of Electrical and Computer Engineering, Georgia Institute of Technology, Atlanta, Georgia. He is currently focusing on machine learning and statistical signal processing for wireless communications. His research topics in the past couple decades include machine learning for wireless signal detection, big data processing for wireless networks, cognitive radios, cross-layer optimization for spectrum- and energy-efficient wireless networks, OFDM and MIMO techniques for wireless systems, and blind signal processing. In these areas, he has published over 250 journal papers in addition to over 40 granted patents and many conference papers. His publications have been cited over 37,000 times from Google Scholar and he has been recognized as the World's Most Influential Scientific Mind, also known as a Highly-Cited Researcher, by Thomson Reuters almost every year. He was awarded IEEE Fellow for his contributions to signal processing for wireless communications in 2006. He also won various awards and recognitions from IEEE Signal Processing, Communications, and Vehicular Technology Societies and Georgia Institute of Technology. He is active in professional societies. Before joining Georgia Tech in 2000, he was a Senior and then a Principal Technical Staff Member with AT&T Labs - Research in New Jersey, USA. He received his B.S.E. and M.S.E. degrees in 1983 and 1986, respectively, from the Department of Wireless Engineering, Nanjing Institute of Technology, Nanjing, China, and his Ph.D. degree in 1994 from the Department of Electrical Engineering, Auburn University, Alabama.



# IEEE ComSoc TCCN Publication Award 2019



- **TCCN Publication Award Committee**
- **Chair:**
  - Wei Zhang (University of New South Wales, Sydney, Australia)
- **Members:**
  - Danijela Cabric (University of California, Los Angeles, USA)
  - Oliver Holland (King's College London, UK)
  - Zhi Tian (George Mason University, USA)
  - Rui Zhang (National University of Singapore, Singapore)

# Technical Committee on Cognitive Networks (TCCN) Meeting



The IEEE Technical Committee on Cognitive Networks (TCCN) is proud to present the **2019 TCCN Publication Award** to

## **Professor Shuguang Cui**

**for outstanding contributions to  
cognitive communications and networking**

**Yue Gao**  
**IEEE TCCN Chair**  
**December 2019**

**Wei Zhang**  
**TCCN Award Committee Chair**  
**December 2019**

# Technical Committee on Cognitive Networks (TCCN) Meeting

## TCCN Publication Award Winner: Shuguang Cui

Shuguang Cui received his Ph.D in Electrical Engineering from Stanford University, California, USA, in 2005. Afterwards, he has been working as assistant, associate, full, Chair Professor in Electrical and Computer Engineering at the Univ. of Arizona, Texas A&M University, UC Davis, and CUHK at Shenzhen respectively. He has also been the Vice Director at Shenzhen Research Institute of Big Data. His current research interests focus on data driven large-scale system control and resource management, large data set analysis, IoT system design, energy harvesting based communication system design, and cognitive network optimization. He was selected as the Thomson Reuters Highly Cited Researcher and listed in the Worlds' Most Influential Scientific Minds by ScienceWatch in 2014. He was the recipient of the IEEE Signal Processing Society 2012 Best Paper Award. He has served as the general co-chair and TPC co-chairs for many IEEE conferences. He has also been serving as the area editor for IEEE Signal Processing Magazine, and associate editors for IEEE Transactions on Big Data, IEEE Transactions on Signal Processing, IEEE JSAC Series on Green Communications and Networking, and IEEE Transactions on Wireless Communications. He has been the elected member for IEEE Signal Processing Society SPCOM Technical Committee (2009~2014) and the elected Chair for IEEE ComSoc Wireless Technical Committee (2017~2018). He is a member of the Steering Committee for IEEE Transactions on Big Data and the Chair of the Steering Committee for IEEE Transactions on Cognitive Communications and Networking. He was also a member of the IEEE ComSoc Emerging Technology Committee. He was elected as an IEEE Fellow in 2013, an IEEE ComSoc Distinguished Lecturer in 2014, and IEEE VT Society Distinguished Lecturer in 2019.



# TCCN Special Interest Groups (SIGs)

- **What is a SIG?**
  - SIGs are mini-TC, representing the hot and emerging research areas in the general field of cognitive networks
- **What does a SIG do?**
  - Attract submissions to CRN symposium at ICC and GLOBECOM
  - Organize journal special issues for TCCN and others
  - Organize workshops and conferences
  - Organize other related technical activities (conference call, blogs, etc.)
- **Who are in a SIG?**
  - Leadership team: a Chair, one or more Vice-Chairs, one or more advisors
  - 10+ key members
  - Considering geographical and academia/industry balance
- **How to establish a SIG?**
  - Fill in the form with the proposed SIG team and activities <http://cn.committees.comsoc.org/special-interest-groups-sigs/application-for-special-interest-groups/>
  - Send to TC Chair
  - Usually go through 1-2 rounds of feedback before official approval

# Current Status of TCCN SIGs



- **Cognitive Network Security SIG**
- **SIG on Cognitive Radio for 5G**
- **SIG on Data-Driven Cognitive Networks (DDCN)**
- **SIG on AI Embedded Cognitive Networks (AICN)**
- **SIG on Social Behaviour Driven Cognitive Radio Networks**
- **SIG on Cognitive Communications and Networking in Cyber-Physical Systems (CCNCPS)**
- **SIG on Energy-harvesting Cognitive Radio Networks**

# TCCN Nominations



- **ICC/GC Symposium Chairs**
- **ComSoc Distinguished Lecturers: 4 Nominations, 2 granted (2019)**
- **IEEE Fellows**

# ICC/GC Symposium Chair Nominations



- **TCCN supports “Cognitive Radio and AI-enabled Networks Symposium” in ICC/GC**
- **Open call-for-nominations from TCCN members**
- **Decisions voted by TCCN Officers (avoiding Col)**
- **Selection criterions**
  - Research record
  - Service record
  - **Service record to TCCN: SIG, Newsletter, Standardization, Publicity, Conference, Journal**



# ComSoc Distinguished Lecturers (DLs) Nominations



- **TCCN nominates up to 4 ComSoc Distinguished Lecturers every September**
- **Open call-for-nominations from TCCN members**
- **Decisions voted by TCCN Officers (avoiding Col)**
- **Selection criterions**
  - Research record
  - Public speaking record
  - **Service record to TCCN: SIG, Newsletter, Standardization, Publicity, Conference, Journal**
- **DLs can also be nominated by individual IEEE Senior Members**

# IEEE Fellow Endorsements



- **TCCN can endorse IEEE Fellow nominations**
- **Typically done by the TCCN Chair**
  - With consultations with other officers if necessary
- **Focusing on both the technical and service contributions to TCCN**

# How to Get Involved in TCCN



- **Many ways of getting involved**

- Organize Special Interest Groups (SIGs) (contact: Yue Gao, Vijay Rao)
- Organize special issues for the TCCN Newsletter (contact: Daniel Benevides da Costa)
- Participate in TCCN related standardization efforts (contact: Oliver Holland)
- Contribute to the publicity efforts of TCCN (contact: Lin Gao, Yuan Ma)
- Contribute to student competition program (contact: Lucio Marcenaro, Sai Huang)
- Involve TCCN in ComSoc conference organization (contract: Lingyang Song)
- Involve TCCN in ComSoc journal special issues (contact: Yue Gao)

- **TC will reward excellent volunteers through various nominations and endorsements**