

# **SIG: Data-Driven Cognitive Networks (D<sup>2</sup>CN)**

Li-Chun Wang,  
Department of Electrical and  
Computing Engineering,  
National Chiao Tung University

# Data-Driven Cognitive Networks (D<sup>2</sup>CN)



**Chair:**

**Li-Chun Wang,**

**Department of Electrical and  
Computing Engineering,  
National Chiao Tung University**

**[lichun@cc.nctu.edu.tw](mailto:lichun@cc.nctu.edu.tw)**



**Vice Chair:**

**Yong Li**

**Dept. of Electronic  
Engineering,  
Tsinghua University**

**[Liyong07@tsinghua.edu.cn](mailto:Liyong07@tsinghua.edu.cn)**



**Vice Chair:**

**Steve Uhlig**

**School of EECS,  
Queen Mary, University of  
London.**

**[steve.uhlig@qmul.ac.uk](mailto:steve.uhlig@qmul.ac.uk)**

# Scope and Objectives

- Data are collected from various sources, including radio channels, user locations, service access data, social networking data, network-status and management data.
- 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.

# Workshop Activities

- IEEE International Workshop on Knowledge Centric Networking (KCN), conjunction in INFOCOM 2018
  - Present novel contributions in the field of machine learning and deep learning applied to networking
- Workshops Day: April 16th, 2018
  - Submissions: 10+
  - Presentations: 8
  - Keynotes: 2
- TPC co-chairs:
  - **Yong Li (Tsinghua University)**
  - Zhenjiang Li (City University of Hong Kong)

# Speech on Data Driven Cognitive Networks

- IEEE GPC 2018, Hongzhou, China
  - Yong LI, Cross-domain Mobile Users' Behavior Modelling and Prediction
- Workshop of Mobile Big Data and Social Networks 2018, Hong Kong
  - Yong LI, DeepMove: Predicting Human Mobility with Deep Neural Networks
- IEEE VTC'19 Spring Tutorial, **Kuala Lumpur, Malaysia (Apr. 28~May 1)**
  - Li-Chun Wang, Machine Learning Radio Resource Management for Future Mobile Networks

# Journal SI Activities

- IEEE JSAC SI Artificial Intelligence and Machine Learning for Networking and Communications.
  - Status: Finishing the first reviewing around.
  - Another SI about AI for Wireless Phy Layer.
- Time
  - **Manuscript Due:** July 15, 2018
  - First revision notification:** October 19, 2018
  - Acceptance notification:** December 7, 2018
  - Final manuscript due:** January 3, 2019
  - Publication of the Special Issue:** First quarter 2019
- Participant
  - **Yong Li**, Tsinghua University, China, [liyong07@tsinghua.edu.cn](mailto:liyong07@tsinghua.edu.cn)

# Upcoming Workshop Proposal Submission

- 2019 Globecom Workshop (Hawaii) (Open soon)
- 2020 Globecom Workshop (Taipei)

# Other Activities Plan

- **Propose Workshops**
  - IEEE conference of GLOBECOM, INFOCOM, etc.
- **Propose Special Issues**
  - IEEE Trans. on Cognitive Network, Trans. On Big Data, IEEE Communications Mag., Signal Processing Mag., etc.
- **Organizing regular meetings**
- **Invitation talks from this area**
- **Building data-sharing community and organize competitions:**
- **[Maintain IEEE TCCN D2CN SIG Website:](#)**
- **<https://www.linkedin.com/groups/13516608/profile>**



**Thanks!**

Li-Chun Wang,  
Department of Electrical and  
Computing Engineering,  
National Chiao Tung University