



# IEEE CSS TC on Smart Grid

*IEEE Conference on Decision and Control (Miami Beach, USA)  
Tuesday, December 18<sup>th</sup>, 2018*

# Attendees

- Alessandra Parisio, [alessandra.parisio@manchester.ac.uk](mailto:alessandra.parisio@manchester.ac.uk)
- Ahmet Cetinkaya, [Ahmet@scdis.titech.ac.jp](mailto:Ahmet@scdis.titech.ac.jp)
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- Johanna Mathiru, [jlmath@umich.edu](mailto:jlmath@umich.edu)
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- Amro Farid, [amfarid@Dartmouth.edu](mailto:amfarid@Dartmouth.edu)
- Scott Moura, [smoura@berkeley.edu](mailto:smoura@berkeley.edu)
- Zhihua Qu, Univ. of Central Florida, [qu@ucf.edu](mailto:qu@ucf.edu)

# Agenda

- a) Welcome and introductions
  
- b) Invited talk: "A Tutorial on Blockchain for Microgrids: Securing Distributed Optimization," by Prof. Scott Moura, UC Berkeley
  
- c) TC report
  - 1. TC operation
  - 2. TC activities
  - 3. Next steps and general discussions

# TC Operation

- TC subcommittees
- TC Publications: Column, Whitepaper, etc.
- TC Website

# TC Subcommittees

TC organizes its activities through operational and technical subcommittees:

## Operational subcommittees:

- Conference Activities (lead: Joshua Taylor)
- International Collaborations (lead: Jakob Stoustrup)
- Membership (lead: Changhong Zhao)

## Technical subcommittees:

- Integration of Renewable Energy (lead: Amro Farid)
- Energy Storage and Electrified Transportation Subcommittee (lead: Scott Moura, co-lead: Javad Mohammadpour)
- Microgrids (lead: Nicanor Quijano)
- Smart Buildings (lead: John James)

# TC Publication: TC Vision Document

*Smart Grid Control: An Overview and Research Opportunities*

Editors: Jakob Stoustrup, Anuradha Annaswamy, Aranya Chakraborty, and Zhihua Qu

Springer Verlag, 2018.

<https://www.springerprofessional.de/en/smart-grid-control/16151788>

Main topics:

- Electricity Markets
- Wide Area Control
- Distributed Control
- Cyberphysical Security.

# TC Website

webpage: <http://smart-grids.ieeecss.org/>

1. Member directory
2. Group email deactivated ([tcs@ieeecss.org](mailto:tcs@ieeecss.org); new privacy policy)
3. TC documents
4. TC Meeting schedules
5. Announcements by members
  - Upcoming conferences
  - Invited sessions
  - Job opportunities

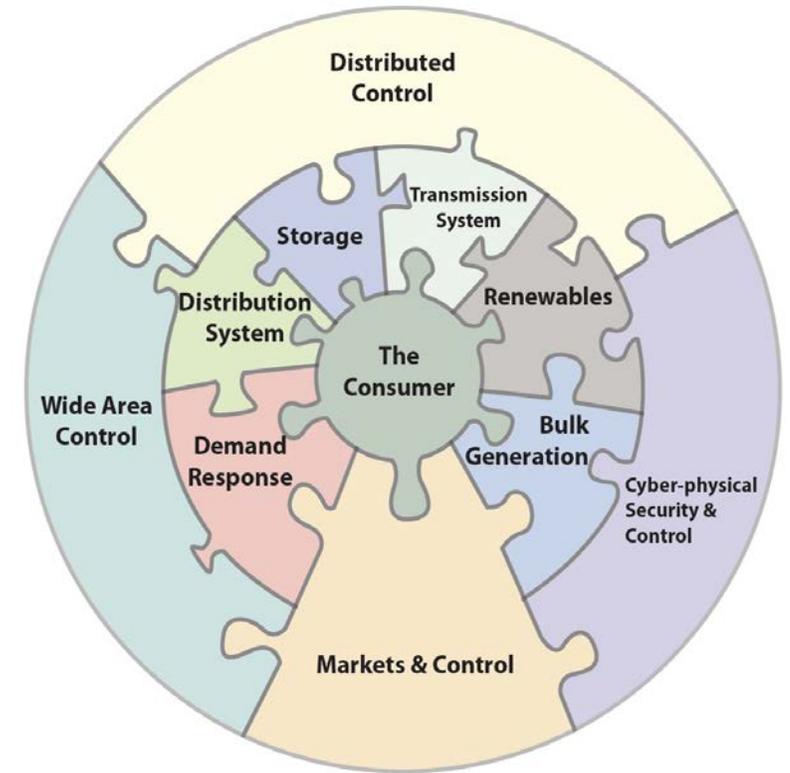
# TC Publications

1. IEEE CSM column
  - Biannual
  - Latest issue: submitted in Jan and published March 2018

2. TC Position Paper (published in Sept 2018)  
**The Role of Control Systems Research in Smart Grids**  
Anuradha Annaswamy and Zhihua Qu  
A Whitepaper endorsed by IEEE Smart Grid R&D Committee

<http://resourcecenter.smartgrid.ieee.org/sg/product/publications/SGWP0006>

3. TC Reports
  - CSS BOG report (next one due November 2019)
4. Action item: **a technical/review article in IEEE CSM**



# TC Activities: 2018 Invited Sessions

- ACC 2018
  - Advanced Flow Control of Wind Farms (by Lucy Pao)
  - Energy/Fuel Efficient Powertrains (by Qadeer Ahmed)
  - Control of Wind Energy Systems (by Christopher Vermillion)
  - Estimation and Control of Batteries (by Scott Moura)
- CCTA 2018
  - Control of DERs (by Joshua/Zhihua)
  - Distributed Energy Management towards Clean and Economically-Enabled Society (by Akia/Shinji)
  - Advances in Wind Turbin Control (by Rafal/Tobias)
- CDC 2018
  - Learning in Power Systems (by Joshua/Zhihua)
  - Complex Energy Systems (by Ramon/Hideaki)
  - Contingency Alleviation in Power Grid (by Na/John/Shuai)

Future topics?

# TC Activities: IEEE Smart Grid

Representatives of our TC:

- IEEE Smart Grid Steering Committee and Technical Activities Committee: [Ian Hiskens](#) and [Zihua Qu](#)
- IEEE Smart Grid Education Committee: [Josh Taylor](#)
- IEEE Smart Grid R&D Committee: [Zihua Qu](#)

Activities:

- Newsletter
- Webinars and Tutorials
- Interviews
- Whitepaper

# TC Activities: 2019 In-Person Meetings

- Semi-annual dinner meeting (meeting at hotel and then dinner at a local restaurant)

day 2 for American Control Conference (ACC) -- Philadelphia

July 11, 2019

- Semi-annual lunch meeting (at hotel)

day 2 for IEEE Conference on Decision and Control (CDC) -- Nice,  
France      December 12, 2019

# New TC Chair: Ian Hiskens



Professor Hiskens's research interests include power system analysis, and analysis and control of nonlinear non-smooth dynamical systems. His areas of specialty are power system dynamics and control, wind power, grid controllability, and inverse problems.

# General Discussion and Action items

- Publication ideas:
  - CSM article
  - IEEE Proceeding article(s)
- Invited sessions --- continuation
- Nomination of associate editor(s) for CSS CEB --- 2018 goal met
- July meeting: no topic/speaker was suggested
- Other TC activities:
  - Measures to build common understanding and strong partnership between CSS and PES
  - Joint CSS/PES session(s) at PES GM and CSS conferences
  - Tutorial session at IEEE CDC 2019 (including PES speakers)

**Thank you for participating!**