



The Awards session at the MSC 2014 in Antibes, France, in October 2014.

videos can be used freely under the condition that the authors and source are properly cited.

### ANNOUNCING THE CSS VIDEO CLIP CONTEST 2015

Due to the success of the first CSS Video Clip Contest, it was decided to continue

this initiative and to announce a second CSS Video Clip Contest for 2015. The contest rules remain mostly the same. Participation is again open to everyone. The best three video clips are again awarded US\$1,000, US\$500, and US\$250, respectively. The winners will be announced at the Video Clip Contest

Award Session during the IEEE MSC 2015, which will take place in Sydney, Australia, September 21–23, 2015. The winner (or, in case of team contributions, one person from the winning team) will receive a travel grant and free conference registration to attend the conference.

### SUBMISSION DEADLINE FOR 2015 ENTRIES

The submission deadline for video clips will be July 1, 2015. Please see <http://www.ieeecss.org/video-contest> for all details. Please spread the news about this interesting opportunity within your personal network. If you have any questions regarding the contest, feel free to contact the organizing team at the Institute for Systems Theory and Automatic Control at the University of Stuttgart ([css\\_video\\_contest@ist.uni-stuttgart.de](mailto:css_video_contest@ist.uni-stuttgart.de)). We are looking forward to your contributions!

Frank Allgöwer

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## Report to the IEEE Control Systems Society Technical Activities Board

The following are reports from some of the individual IEEE Control Systems Society (CSS) technical committees (TCs).

### IEEE TC ON CONTROL OF NETWORKED SYSTEMS

Reported by TC Chair Asu Ozdaglar, (MIT) and working group chairs: Peter Marbach (Resource Allocation and Network Economics), University of Toronto; Ali Jadbabaie (Optimization and Game Theoretic Methods in Networks), University of Pennsylvania; Venkatesh Saligrama (Networked Sensing and Sensor Networks), Boston University; and Sekhar Tatikonda (Network Control Systems), Yale University.

There has been an increasing volume of research on networks within the CSS community. This research is not confined to work on traditional communication networks but also extends to a broader set of networks, including other technological networks such as transportation and energy networks; social, economic, and financial networks; and biological networks. The increasing interest is reflected in the launching of new IEEE journals and new focus fields within the flagship journal, *Operations Research*, in this area (please see the outlined activities below for more details).

We next outline some activities with which TC members are involved and in many cases are responsible for organizing.

» *IEEE Transactions on Control of Network Systems* organized a

symposium (SCONES, <http://sites.bu.edu/tcns/scones>) on October 27–28, 2014, which featured all the inaugural issue papers and three additional invited sessions with papers on networks: biological, communication, and cyberphysical. SCONES attracted more than 130 participants and included a poster session with many papers in all the above topics.

» Asu Ozdaglar is a coorganizer (together with Ruth Williams from University of California, San Diego) of the workshop “Analysis and Control of Network Dynamics,” to be held October 19–23, 2015 at the Institute for Mathematics and its Applications (IMA). This workshop is organized as part of the IMA-thematic year on

Control Theory and Its Application (see <http://www.ima.umn.edu/2015-2016/W10.19-23.15>).

- » Asu Ozdaglar is a coorganizer (together with Saurabh Amin and Galina Schwartz) of the IPAM Graduate Summer School on, Games and Contracts for Cyberphysical Security, to be held July 7–23, 2015 (see <http://www.ipam.ucla.edu/programs/summer-schools/graduate-summer-school-games-and-contracts-for-cyber-physical-security/>).

**Asu Ozdaglar**  
*Chair*

## IEEE TC ON SMART GRIDS

A discussion on why the TC on Smart Grids (TC-SG) exists led to a subsequent mission statement for the TC and creation of material for the Web site.

Mission Statement: To understand, anticipate, and respond to current and future smart grids' control needs and opportunities in a broad array of areas, including:

- 1) TC-SG convenes and works with systems and control colleagues on the greatest smart grid challenges by providing technical resources, collaboration opportunities, and partnerships for numerous researchers worldwide, who are engaged in smart grids, in academic institutions, government laboratories, and industrial companies.
- 2) We exist to highlight control activities and opportunities in smart grids to the control community.
  - a) The power grid 2.0 presents the greatest potential opportunity for the control community to make significant societal contributions across the world. Challenges faced by the power grid are much more systems problems than they are traditional power problems.
  - b) Control systems are needed across broad temporal,

## The IEEE TC-SG continues to be active in the area of renewable energy integration.

geographical, and industry scales—from devices to power-system-wide, from fuel sources to consumers, from utility pricing to demand response, and so on.

- c) With increased deployment of feedback and communication, opportunities arise for reducing consumption, better exploiting renewable sources, and increasing the reliability and performance of the transmission and distribution networks. At the same time, however, closing loops where they have never been closed before, across multiple temporal and spatial scales, creates control challenges.
- 4) We exist to be ambassadors of control to the larger energy and power systems communities.
  - a) Feedback, optimization, estimation, dynamics, stability...these and other control system concepts are core to smart grid technology. In many ways, the smart grid is a control problem!

**Massoud Amin**  
*Chair*  
**Jakob Stoustrup**  
*Cochair*

## UPDATES FROM SUBCOMMITTEES

### **Integration of Renewable Energy Subcommittee**

The IEEE TC-SG continues to be active in the area of renewable energy integration. At the 2014 American Control Conference (ACC), an invited technical session, "Control Strategies for Renewable Energy Integration into the Smart Grid" was organized by Amro M. Farid and Sahika Genc and then

successfully held. Since then, another invited session with the same title has been planned for the 2015 ACC. The subcommittee on Renewable Energy Integration recognizes that this topic is of high interest in the CSS, noting that several ACC and Conference on Decision and Control (CDC) sessions are often organized outside of this TC's invited sessions. Therefore, the subcommittee sees part of its role as a catalyst for cooperation and collaboration in the CSS as well as other IEEE Societies such as IEEE Power & Energy, IEEE Industrial Electronics, and IEEE Systems, Man, and Cybernetics Societies.

**Amro Farid**  
*Lead*

### **Energy Storage and Electrified Transportation Subcommittee**

The Energy Storage and Electrified Transportation Subcommittee has organized an invited session for the 2015 ACC, Control and Optimization for Vehicle-Grid Integration (VGI). For the 2016 ACC, Scott Moura plans a tutorial session on the same topic. In August 2014, there was another special session on Renewable Energy Integration Subcommittee on Energy Storage and Electrification of Transportation, along with another special session on transportation electrification.

**Scott Moura**  
*Lead*  
**Javad Mohammadpour**  
*Colead*

### **Microgrids Subcommittee**

During 2014, the Subcommittee on Microgrids helped organize the Workshop on Control Systems and Energy Efficiency in Latin America. This workshop was supported in part by the IEEE CSS Outreach Fund, where Jorge

**WIE will hold its second conference, the IEEE  
WIE International Leadership Conference (ILC)  
April 23–25, 2015 in San Jose, California.**

Sofrony and Nicanor Quijano were the PIs of the proposal (Eduardo Mojica-Nava and Diego Patiño were co-PIs, and their institutions helped with the organization of the event). They invited four distinguished researchers from the CSS (Tariq Samad, Ricardo Sánchez-Peña, Carlos Ocampo-Martínez, and Guillermo Jiménez) in the areas of microgrids and autonomous monitoring and large infrastructure. In this two-and-a-half-day workshop we had several activities (for example, plenary lectures and Ph.D. poster sessions), with round tables and discussions as the main focus of the event. The main conclusions were presented on the last day of the event, and the conclusions are being summarized in a white paper that will be published/circulated in 2015. Plans for 2015 were discussed during the 2014 CDC.

**Nicanor Quijano**  
*Lead*

Additional areas discussed and delivered include:

- » *Collaboration and LinkedIn*: The LinkedIn group is open to everyone on the TC-SG roster. Social media for CSS and TC-SG on LinkedIn are at [www.linkedin.com/groups?gid=1514847](http://www.linkedin.com/groups?gid=1514847), and CSS group members can join the TC-SC subgroup at [www.linkedin.com/groups?gid=3723696](http://www.linkedin.com/groups?gid=3723696)
- » *IEEE SG Newsletter*: Articles of 800–1200 words on topics are solicited for this widely read publication. The December 2014 issue

marks the 48th monthly newsletter, which continues to be very well received. To access the 2014 issues and earlier articles (four articles are published each month), please visit <http://smartgrid.ieee.org/november-2014>, where over 190 posted articles (for January 2011–December 2014) are available.

- » *Webinars*: Six pertinent IEEE Webinars, in close partnership with the IEEE Smart Grid, were delivered during June–December 2014 (<http://smartgrid.ieee.org/resources/ieee-smart-grid-webinars/past-ieee-smart-grid-webinars>). The kickoff Webinar was given by Massoud Amin on June 11, 2014 (<http://smartgrid.ieee.org/resources/ieee-smart-grid-webinars/webinar-overviews/1160-technological-leadership-local-to-global-strategy-with-massoud-amin2>). Five more were given during July to December. On average, over 520 registrants from throughout the world participated. In addition, as discussed in past TC-SG meetings, we will develop and deliver additional CSS-focused Webinars.

**IEEE CSS LIAISON TO IEEE  
COMMITTEE ON WOMEN IN  
ENGINEERING**

This is the end of my second year as the CSS liaison to the IEEE Women in Engineering (WIE) committee.

First, some statistics to ponder: as of October 2014, there were 319,814 IEEE Members, 9,413 members of CSS, and 14,045 members of WIE. Interestingly, it is hard to track the number of women members of IEEE, CSS, or WIE. For example, only 38% of WIE are women and 16% are men, with the gender of the rest not provided upon membership. WIE membership is free for students, graduate students, and Life Members, and US\$25 for all other IEEE Members.

Since my last report in June 2014, I was a speaker at the very successful Beauty of Feedback Control Workshop for High School Students and Teachers, organized by Bozena Pasik-Duncan, and held at the IFAC World Congress August 29, 2014 in Cape Town, South Africa. There were many women students and teachers in the audience.

WIE will hold its second conference, the IEEE WIE International Leadership Conference (ILC) April 23–25, 2015 in San Jose, California. I will attend this conference, which will also host the WIE Committee meetings. The purpose of the ILC is to provide leading-edge professional development for mid-level and senior women.

Attendees will have the opportunity to create communities that fuel innovation, facilitate knowledge sharing, and provide support through highly interactive sessions designed to foster discussion and collaboration.

I will continue to connect and facilitate activities between WIE, CSS, and the CSS Women in Control Standing Committee. I look forward to continuing in this position next year.

**Linda Bushnell**  
*Representative*

