

# IEEE CSS TC SIAC meeting ACC 2021

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<http://system-identification.ieeecss.org>



Virtual meeting  
Thursday, May 27th 2021



# Round virtual-table

- Please introduce yourself



# Outline

- ① Status
- ② Activities
- ③ Opportunities
- ④ A final note



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- TC SIAC membership available to any IEEE member in good standing upon request to the TC chair (CV + proof of IEEE membership required).
- As of today: **91 members** (7 new members in 2020-2021), **3 student members**.
- Please encourage your students to join the TC (involvement of young people is essential).



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# Activities: organization of events

- 5th Workshop on Nonlinear System Identification Benchmarks (April 22-23, 2021, online form with 12 regular presentations)
  - Organizers: J.P. Noël, M. Schoukens, K. Tiel
- 19th IFAC Symposium on System Identification - Learning Models for Decision and Control (**SYSID2021**, July 14-16, 2021, Padua, Italy)
  - General Chair: A. Chiuso
  - IPC Chairs: R. Smith, P. van den Hof

Officially support by our TC (IEEE/IFAC invited speech)

- 4th IFAC Workshop on Linear Parameter Varying Systems (**LPVS2021**, July 19-20, 2021, Milan, Italy).
  - NOC Chair: S. Formentin (NOC Co-chair: M. Lovera)
  - IPC Chair: P. Lopes Dos Santos



# Activities: invited sessions and special issues

- Invited session at IFAC SYSID 2021: “Physics-Informed Learning for Dynamic Systems”, by M. Schoukens
- Invited session at the 55th Annual Conference on Information Sciences and Systems 2021: “Estimation and Learning in Stochastic Systems”, by J. Spall
- Invited session at CDC 2021: “Estimation and Control of Quantum Systems”, by D. Dong, R. Wu, J. Li, I. Petersen
- Special issue, Quantum Control and Quantum Machine Learning, Journal of The Franklin Institute, 2021-2022, guest editors: G. Zhang, A. Borzi, D. Dong, I. Petersen



# Activities: ACC 2021

- ✓ 3 sessions (out of 92) including the word “identification”, 4 sessions about “adaptive control”
- ✓ 7 sessions on “learning-based approaches”
- ✓ No invited sessions
- ✓ 56 papers use the word “identification” in the title, 60 papers use “adaptive control”, 326 papers use “learning”
- ✓ First day plenary: “Lessons from Adaptive Control: Towards Real-Time Machine Learning” (A.M. Annaswamy)



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# Opportunities: budget and website

- IEEE may financially support the TC activities **up to 3000\$ per year**. Priority: ACC/CDC workshops or any event involving TC members, PhD/master students.
- Use of the website:
  - Collection of teaching material
  - Peer-reviewed data and models
  - SW repositories
  - Announcements of events
  - List of job opportunities
  - Recommended books and papers (links)



# The TC student award

- Objectives:
  - Recognize young talent associated with a technical area
  - Promote student membership and participation in the TCs
- Each award is given to a student that is (possibly the first) author of a CDC paper (possibly CCTA) AND also a member for a CSS TC (given at the CDC of year  $N$  for a paper of CDC of year  $N - 1$ )
- Each TC has its own award, e.g., named “TC SIAC Outstanding Student Paper Award” (no money, just a certificate).
- The award is presented at a TC-sponsored event, not at the CDC awards ceremony.
- Minimalist nomination process:
  - Any TC member can nominate a paper to the prize through an email to the TC chair. The email needs to contain a statement that the student is the primary author of the paper.
  - Self-nominations are allowed, but the nomination email must be carbon-copied to all the authors.



# The TC student award

- The selection committee consists of 4-5 person selected by TC chair in consultation with CSS Awards Chair and/or the Vice-President for Technical Activities.
- Members of the selection committee cannot nominate any paper and cannot be co-authors in any of the papers under consideration for the prize.
- The selection process is mostly managed by TC chair, who makes a recommendation to the general conference chair. The certificate is signed by the general conference chair and the TC chair. This guarantees oversight by an independent entity outside the committee.
- For 2020, 3 prizes for a trial run: *Hybrid Systems + Discrete-Event Systems*, *Health and Medical Systems + Systems and Synthetic Biology*, *Distributed Parameter Systems*
- We will run for a joint prize with the TC on Intelligent Control (I already talked to Tansel Yucelen)



- A designated day with coordinated activities around the world to
  - ① Celebrate CSS impact
  - ② Improve CSS communications
  - ③ Enhance CSS visibility
  - ④ Engage the engineering broader community
  - ⑤ Expand CSS diversity
- Modeled after PES-Day: <https://site.ieee.org/pes-day/>
- Target October 19, 2021 for a pilot launch
- The scope will be defined and decision for the pilot launch will be made in July, 2021
- Format for 2021: virtual
- Task force members: Maria Di Benedetto (CSS VPMA, co-chair), Martha Grover (Women in Engineering, WiC), Joao Hespanha (CSS VPFA), Rush Patel (YP, Industry), Thomas Parisini (CSS President), Jing Sun (CSS VPTA, chair) , Ahmad Tara (Web), Weixing Zheng (Chapter Activities),



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# Post-COVID SYSID and adaptive control?

- At CDC, we discussed some opportunities during COVID times:
  - ① cross-train research staff
  - ② cross-teaching and experiments with different teaching modes
  - ③ online discussion forums
- Concrete actions:
  - ① No feedback from you: could this TC be a good “virtual networking tool” for research?
  - ② Survey on teaching during the pandemic: (IFAC TC9.4)  
<https://tinyurl.com/pandemic-edu>
  - ③ IEEE CSS Workshop on Control for Societal Challenges
- What to keep and what to toss?
  - ① One virtual meeting between ACC and CDC?
  - ② Intermediate report?
  - ③ No more fake lunches! 😊

