

# IEEE CSS TC SIAC meeting CDC 2021

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



Virtual meeting  
Friday, December 17th 2021



# Round virtual-table

- Please introduce yourself



# Congratulations to Daniel Rivera

- For his recent achievements, shared with Ali Mesbah (TC chair for Process Control) and Alexander Medvedev (TC chair for Healthcare and Medical Systems):
  - Fellow of the Society of Behavioral Medicine
  - AIChE CAST webinar (on Feb. 25, 2021) on Teaching System Identification to Chemical Engineers. This was part of receiving the David W. Himmelblau Award for Innovations in Computer-Based Chemical Engineering Education in fall 2020.



# 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: **95 members** (11 new members in 2020-2021), **4 student members, 3 new.**
- Please encourage your students to join the TC (involvement of young people is essential).



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# Activities: organization of events

- 2021 Workshop on Nonlinear System Identification Benchmarks (April 22-23, 2021, online, 13 regular presentations, ~ 50 attendees)
- Upcoming: 2022 Workshop and Mini-Course on Nonlinear System Identification, 25-29 April, 2022, Leuven, Belgium (in-person event)
- Workshop “Beauty of Stochastics” in honor of László Gerencsér’s 75th birthday (broadcasted via Zoom)
- 19th IFAC Symposium on System Identification - Learning Models for Decision and Control (**SYSID2021**, July 14-16, 2021, Padua, Italy)
- 4th IFAC Workshop on Linear Parameter Varying Systems (**LPVS2021**, July 19-20, 2021, Milan, Italy, ~ 35 attendees).



# 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: CDC 2021

- ✓ 7 sessions (out of 190) including the word “identification”, 4 sessions about “adaptive control”
- ✓ 26 sessions on “learning-based approaches” (many of them are invited) and 7 sessions on “data-driven” approaches
- ✓ “identification” keyword used 47 times, “learning” 216 times
- ✓ No dedicated plenary session
- ✓ Good news: we are among the “learning” people! (see, e.g., the sessions co-organized by P. Tesi)



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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 (with Tansel Yucelen)



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# A new TC

- A new TC has been proposed: Stochastic Systems & Control
- What do you think about it?
- Which kind of relationship should we have with the intelligent control community?

