# IEEE CSS TC SIAC meeting ACC 2022

### Simone Formentin

http://system-identification.ieeecss.org



### Virtual meeting Thursday, June 9th 2022



### Round virtual-table

• Please introduce yourself

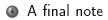










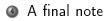














### Status

 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: 98 members (8 new members in 2021-2022),
5 student members.

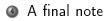
• Please encourage your students to join the TC (involvement of young people is essential).





### 2 Activities

### Opportunities





### Activities: special issues and invited sessions

- Special Section on **Estimation and Control of Quantum Systems**, *Annual Reviews in Control*, 2022, Guest Editors: Ian R. Petersen, Daoyi Dong
- Special Issue on Control, Estimation, and Machine Learning in a Quantum Framework, Journal of The Franklin Institute, 2022, Guest Editors: Guofeng Zhang, Alfio Borzi, Daoyi Dong, Ian R. Petersen
- Special Issue on New Results on Adaptive Systems, International Journal of Adaptive Control and Signal Processing, 2022, Guest Editors: Stanislav Aranovskiy, Alexey Bobtsov, Anton Pyrkin
- Invited session on Parameter Estimation under Relaxed Excitation Conditions, IFAC Adaptive and Learning Control Systems (AL-COS) 2022, Organizers: Stanislav Aranovskiy, Alexey Bobtsov



### Activities: ACC 2022

- $\checkmark$  4 sessions including the word "identification", 4 sessions about "adaptive control"
- $\checkmark~$  12 sessions on "learning-based approaches" (many of them are invited)
- ✓ One plenary session on control using deep learning, Draguna Vrabie (Pacific Northwest National Laboratory)



### Activities: 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
- Each TC has its own award
- The award is presented at a TC-sponsored event, not at the CDC awards ceremony (this time: ACC 2022).
- Minimalist nomination process:
  - Any TC member can nominate a paper to the prize through an email to the TC chair, containing 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 persons selected by TC chair in consultation with CSS Awards Chair and 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.



# The TC student award

- 2021 program wrapped up. Winners of five participating TCs for three prizes announced (to appear in CSM August issue)
  - Hybrid Systems and Discrete-Event Systems
  - 2 Health and Medical Systems and Systems of Synthetic Biology
  - Oistributed Parameter Systems
- 2022 program: 8 TCs participated with 7 prizes (4 have wrapped the process)
  - Aerospace Control
  - 2 Automotive Control
  - Oiscrete Event Systems
  - 4 Networks and Communication Systems
  - 5 Power Generation
  - 6 Smart Cities
  - ② System Identification and Adaptive Control, joint with Intelligent Control



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# Our TC student award

- Selection Committee for the TC SIAC-IC prize:
  - 📵 Kiana Karami
  - Daoyi Dong
  - 3 Paulo Lopes dos Santos
  - ④ Simone Formentin
- 4 nominations received
- Main evaluation criteria:
  - Clarity
  - Potential impact on future research and applications
  - ③ Novelty
- And the winner is...



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### 1st winner of TC student award



2022 Joint System Identification and Adaptive Control TC and Intelligent Control TC Outstanding Student Paper Prize presented to

#### Lucian Cristian Iacob

for the paper entitled

Deep Identification of Nonlinear Systems in Koopman Form

co-authored with Gerben Izaak Beintema, Maarten Schoukens, and Roland Toth, published at the 2021 60<sup>th</sup> IEEE Conference on Decision and Control



Siman Enti

Simone Formentin System Identification and Adaptive Control TC Chair

Thomas Parisini CSS President



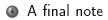


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### Opportunities





# Opportunities: budget, website and social media

- 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/social media):
  - Collection of teaching material
  - Peer-reviewed data and models
  - SW repositories
  - Announcements of events
  - List of job opportunities
  - Recommended books and papers (links)









### A final note



# Engagement?

• Linkedin: launched on Feb 15th, 2022, 18 members.



• Twitter: launched on Feb 15th, 2022, 5 followers.





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