IEEE CSS TC SIAC meeting
ACC 2022

Simone Formentin

http://system-identification.ieeecss.org

Virtual meeting
Thursday, June 9th 2022
• Please introduce yourself
Outline

1. Status
2. Activities
3. Opportunities
4. A final note
Outline

1 Status

2 Activities

3 Opportunities

4 A final note
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).
Outline

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


- Invited session on **Parameter Estimation under Relaxed Excitation Conditions**, *IFAC Adaptive and Learning Control Systems (ALCOS) 2022*, Organizers: Stanislav Aranovskiy, Alexey Bobtsov
Activities: ACC 2022

✓ 4 sessions including the word “identification”, 4 sessions about “adaptive control”

✓ 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 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)
  1. Hybrid Systems and Discrete-Event Systems
  2. Health and Medical Systems and Systems of Synthetic Biology
  3. Distributed Parameter Systems

- 2022 program: 8 TCs participated with 7 prizes (4 have wrapped the process)
  1. Aerospace Control
  2. Automotive Control
  3. Discrete Event Systems
  4. Networks and Communication Systems
  5. Power Generation
  6. Smart Cities
  7. System Identification and Adaptive Control, joint with Intelligent Control
Our TC student award

- Selection Committee for the TC SIAC-IC prize:
  1. Kiana Karami
  2. Daoyi Dong
  3. Paulo Lopes dos Santos
  4. Simone Formentin

- 4 nominations received

- Main evaluation criteria:
  1. Clarity
  2. Potential impact on future research and applications
  3. Novelty

- And the winner is...
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

coa-authored with Gerben Izaak Beintema, Maarten Schoukens, and Roland Toth, published at the 2021 60th IEEE Conference on Decision and Control

Simone Formentin
System Identification and Adaptive Control TC Chair

Thomas Parisini
CSS President
Outline

1. Status
2. Activities
3. Opportunities
4. A final note
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)
Outline

1. Status
2. Activities
3. Opportunities
4. A final note
Engagement?

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

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