

IEEE CSS TC-SIAC meeting ACC 2017, Seattle, USA

Guillaume Mercère

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



Sheraton Seattle Hotel, Seattle, WA
Thursday, May 25th, 2017



Outline

- 1 Introduction
- 2 Reports on TC-SIAC membership and general items
- 3 Report on recently completed/on-going activities
- 4 Discussion, brainstorming and new initiatives



Round table

- Please introduce yourself (name, affiliation, research interests in system ID and/or adaptive control...)



TC-SIAC membership

- Reminder: IEEE-CSS bylaws state that membership in a TC is available to any member in good standing, upon request (CV + proof of IEEE membership).
- Currently, the committee consists of 66 members.
- Last TC meeting at the 2016 CDC in Las Vegas had 25 members in attendance.
- Feel free to invite your PhD or Post-doc students during the TC meeting.



Recently completed/on-going activities

- Control System Magazine column on SIAC should be available soon.
- Invited sessions at ACC 2017
 - “Precision Mechatronics I - SPM and High-Speed Control”
Organizers: Andrew Fleming, Marcel Heertjes and *Tom Oomen*
 - “Precision Mechatronics II - Precision Motion Control”
Organizers: Andrew Fleming, Marcel Heertjes and *Tom Oomen*



Recently completed/on-going activities (cont'd)

- Special issues in International Journal of Control
 - “Applied Fractional Calculus in Modeling, Analysis and Design of Control Systems”
Guest Editors: Yang Quan Chen and *Clara Ionescu*
Published in International Journal of Control, Volume 90, Issue 4, 2017
 - “Identification and Control of Nonlinear Electro-Mechanical Systems”
Guest Editors: Alexandre Janot, *Hugues Garnier*, Peter Young, Françoise Lamnabhi-Lagarrigue
Published in International Journal of Control, Volume 90, Issue 4, 2017



Future invited sessions and workshops

- Invited sessions at IFAC World Congress 2017
 - “Identification in dynamic networks”
Organizer: *Paul van den Hof*
 - “Modelling, identification and control of quantum systems”
Organizers: *Daoyi Dong*, Naoki Yamamoto and Rebing Wu
 - “Precision Mechatronics - Advanced Motion Control”
Organizers: Andrew Fleming, Marcel Heertjes and *Tom Oomen*
 - “Iterative Learning Control and Repetitive Control: Theoretical Advances and Emerging Applications”
Organizers: Kira Barton, Sandipan Mishra, Bing Chu, Christopher Freeman and *Tom Oomen*



Future invited sessions and workshops (cont'd)

- Invited sessions at IFAC World Congress 2017 (cont'd)
 - “Linear Parameter Varying Systems: modelling, analysis, observation, control, diagnosis and applications”
Organizers: *Roland Toth* and Olivier Sename
 - “Control and data-driven modelling in biomedicine”
Organizers: *Clara Ionescu* and Levente Kovacs
- Workshops at IFAC WC 2017
 - “Bottlenecks, challenges and solutions for control and data-driven modelling in biomedicine”
Organizers: *Clara Ionescu* and Levente Kovacs
 - “Iterative learning control and repetitive control: theoretical advances and emerging applications”
Organizers: Bing Chu, Christopher Thomas Freeman, *Tom Oomen*, Kira Barton and Ying Tan



Future invited sessions and workshops (cont'd)

- Invited sessions at CDC 2017
 - “Adaptive and Networked Systems”
Organizers: *Simone Baldi* and Ji Liu
 - “Estimation and Control in Quantum Systems”
Organizer: *Daoyi Dong*
- Invited sessions at ICCA 2017
 - “Identification and Control of Cyber-Physical Systems”
Organizer: *Simone Baldi*
- Invited sessions at SMC 2017
 - “Quantum cybernetics, quantum computing and AI”
Organizer: *Daoyi Dong*



Future conferences

- 2018 IFAC Conference on Advances in Proportional-Integral-Derivative Control
- Will be held from Wednesday through Friday, May 9-11, 2018 at the Het Pand Convent and Meeting Centre in the heart of Ghent, Belgium
- Main Conference Chair: *Clara Ionescu*



- SIAC education depository currently available at <http://system-identification.ieeecss.org/tc-system-identification/educational-material>
- We have (and are still looking for)
 - collections of syllabi, presentations, and class notes in support of system identification and adaptive control topics,
 - peer-reviewed data and models,
 - software/algorithm depositories and virtual and/or interactive labs.
- Important to improve the web-page with
 - announcements of invited sessions, workshops,
 - a list of job opportunities,
 - recommended books and papers (links).



CSS Wikipedia project

- For several years now, many efforts have been made to improve the Wikipedia pages dedicated to control science and technology.
- Since then, the task of taking care/improving the Wikipedia pages has been assigned to the TCs.
- Our TC was invited to take care of the most important pages related to system identification and adaptive control.
- Girish Chowdhary and Tansel Yucelen are the leaders of the TC-SIAC working group.
- This project is conducted in collaboration with the IFAC TC on System Identification and Signal Processing.



CSS Wikipedia project (cont'd)

- Main tasks to perform as soon as possible
 - find on Wikipedia all the pages dedicated to data-driven modeling, system identification and/or adaptive control, list them and describe shortly their content, **DONE**
 - create a page template to help and guide the contributors write the wiki pages, **DONE**
 - ask the TC members if they want to be contributors, then if then can describe the main items we want to see in each page, **DONE**
 - share these results during the TC meetings (during ACC, CDC,...), then use these brainstorming sessions to end up with a list of pages and contributors.



- Special Issue in Control Theory and Technology
Quantum Control
(dedicated to Prof. Ian Petersen's 60th Birthday)
- Guest editors: Daoyi Dong, Guodong Shi, Shanon Vuglar and Matthew R. James
- Submission deadline: July 1, 2017.

- Special Issue in IEEE Transactions on Control Systems Technology

System identification and control in biomedical applications

- Guest editors: Guillaume Mercère, Alexander Medvedev, Daniel Rivera (TC-SIAC), Caterina Scoglio (TC-HMS), Bayu Jayawardhana (TC-SB)
- Submission deadline: November 1, 2017.



Miscellaneous

- CEB membership.
- IEEE keywords list dedicated to SIAC.

