

IEEE CSS TC-SIAC meeting ACC 2016, Boston, USA

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



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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...)



Round table

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- **Many thanks Diego for your 3 year chair of the TC.**
 - 4 special issues published in leading automatic control journals,
 - 6 workshops on some theoretical and/or applied hot topics related to system identification/adaptive control,
 - about 20 invited sessions in leading international conferences in the control/identification field (CDC, ACC,...),
 - 2 tutorial sessions on the emerging topics of Big Data and Machine Learning in System Identification,
 - strong links built with other Technical Committees (SB, CACSD, HMS)



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 57 members!!!
 - Huge decrease (why???)
 - Mainly from academia.
- Last TC meeting at the 2015 CDC in Osaka had (only) 12 members in attendance.

How can we increase the attractiveness of our TC?

- Reminder: Materials are accessible on the TC website.



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

- Workshop at ACC 2016
 - “Identification of Linear, Parameter Varying, and Nonlinear Systems: Theory, Computation, and Applications”
Organizers: Wallace E. Larimore, Pepijn B. Cox, *Roland Toth*
- Invited session in International Conference on Automation, Quality and Testing, Robotics 2016
 - “Fractional Order Modelling and Control”
Organizers: *Clara Ionescu* and *Cristina Muresan*



Recently completed/on-going activities

- Invited session at ACC 2016
 - “High Precision Systems: Modelling and Disturbance Compensation” (WeC24)
Organizers: Marcel Heertjes, Andrew J. Fleming, *Tom Oomen*
 - “New Directions in Iterative Learning Control” (WeA11)
Organizers: David Hoelzle, Kira Barton, *Tom Oomen*, Douglas A. Bristow, Sandipan Mishra
 - “Developments in Identification and Estimation of Linear Parameter-Varying Systems” (ThC04)
Organizers: Javad Mohammadpour, *Roland Toth*, Nasder Meskin



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*
Paper submission finalized. Publication expected: end of this year or beginning of next year.
 - “Identification and Control of Nonlinear Electro-Mechanical Systems”
Guest Editors: Alexandre Janot, *Hugues Garnier*, Peter Young, Françoise Lamnabhi-Lagarrigue
Papers under review. Publication expected: end of this year or beginning of next year.



Future invited sessions and workshops

- Invited session at CDC 2016
 - “System Identification and Control in Cancer” (with HMS-TC)
Organizers: Vanessa Jonsson and Claire Tomlin
 - “Dynamic Network Identification”
Organizers: Arne Dankers and *Paul M. J. van den Hof*
- Workshop at CDC 2016
 - “Realization Theory and its Role in System Identification”
Organizers: *Mihaly Petreczky*, Anders Lindquist, Jan H. van Schuppen, Bernard Hanzon, *Alessandro Chiuso*, Jana Nemcova



System identification 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.
- We continue to solicit contributions actively!!!

Ideas, suggestions??



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.
- We are waiting for inputs from the CSS Wikipedia Editor (Jakob Stoustrup).



Upcoming submission deadlines

- ACC 2017 (24-26 May 2017, Seattle, WA, USA)
Draft Manuscripts: 19 September 2016
Workshop Proposals: 10 October 2016
- IFAC World Congress 2017 (9-14 July 2017, Toulouse, France)
Open Invited Track submission deadline: 15 September 2016
Draft Manuscripts: 31 October 2016
Workshop Proposals: 30 November 2016

Ideas, suggestions??



New journal special issues

- Special Issue for IEEE Transactions on Control Systems Technology

Control and data-driven modeling in biomedicine

- Guest editors: Alexander Medvedev, Daniel Rivera, Guillaume Mercère (TC-SIAC), Caterina Scoglio (TC-HMS), Bayu Jayawardhana (TC-SB) (with the help of Diego Re-gruto)
- Scheduling still under discussion.



New journal special issues (cont'd)

- TC-SIAC members are invited to suggest ideas for new special issues/sections in
 - IEEE Control System Magazine,
 - IEEE Transactions on Control of Network Systems,
 - Automatica,
 - other high quality journals.

Ideas, suggestions??



Promoting System Id. and Adaptive Control

- How can we promote our research and results towards
 - Master students (who are future PhD students),
 - PhD students,
 - manufacturers?
- Video Clip contest?
- Can we develop a better tool than a standard webpage?
LinkedIn? Facebook? Twitter?

Ideas, suggestions??

