

# Technical Committee on Healthcare and Medical Systems (TC-HMS)

Second semi-annual meeting 2016

CDC 2016 Las Vegas

Monday, December 12, 2016

4:00pm – 6:00pm

Cottonwood Boardroom – Level 3

# Preliminaries

- Introductions
- Collect attendance

# Activities July 2016-December 2016

- *TC-sponsored activities organized for the ACC 2016 in Boston*

This TC has successfully organized two invited sessions.

***Mathematical modeling of diseases and medical intervention effects.*** (WeB12) Organizers: Caterina Scoglio, Kansas State University, and Alexander Medvedev, Uppsala University Sweden. The proposed invited session was aimed at demonstrating the diversity of mathematical techniques that are applied in modeling of diseases as well as the assessment of intervention therapies and strategies.

***Application of control theory in legged locomotion.*** (ThC10) Organizers: Robert D. Gregg, University of Texas at Dallas, and Koushil Sreenath, Carnegie Mellon University. Co-Endorsed by the TC on Manufacturing Automation & Robotic Control. The goal of this invited session was to bring together leaders in control of legged locomotion, from the controls, dynamics and robotics communities, to foster a single session for exchanging ideas to enable complex experimental systems to exhibit dynamic legged locomotion.

# Activities July 2016-December 2016

- *TC-sponsored activities organized for the ACC 2016 in Boston*

This TC has also organized a special session

## ***Role of controls and systems science in health-related research.***

Organizers: Caterina Scoglio, Kansas State University, and Fahmida N. Chowdury, National Science Foundation. This session consisted of one introduction, four presentations, and a panel discussion with audience participation.

# Activities July 2016-December 2016

- *TC-sponsored activities organized for the **CDC 2016, Las Vegas***

This TC had submitted one invited session proposal.

***Automatic Control of Therapies***. Proposers: Alexander Medvedev, Uppsala University Sweden, Pasquale Palumbo, CNR-Italy, Caterina Scoglio, Kansas State University.

Unfortunately the proposal was declined, together with 3 papers; however the remaining 3 papers were accepted to the general conference.

# Activities July 2016 –December 2016

## TC-sponsored activities during the ACC 2017 in Seattle

This TC has submitted the following invited session proposal:

- *Computational models in health and care* Proposers: Caterina Scoglio – Kansas State University, Alexander Medvedev – Uppsala University Sweden. This proposed invited session consists of papers addressing problems in medicine and care of high societal impact by applying mathematical and computational modeling of processes and systems.

While six contributions were planned for this invited session, one author could not submit at the last moment due to health reasons. Currently, the invited session includes five contributions. We have informed the Vice Chair for Invited Sessions, Dr. Kristi Morgansen of this situation.

# Activities Planned for Jan 2017-May 2017

- Special Issue: System identification and control in biomedical systems. Guillaume Mercere.
- Theme: “Control and data-driven modeling in biomedicine”,

Alexander Medvedev, Daniel Rivera, and Caterina Scoglio, members of this TC, are part of the proposers of a *Special Issue for the IEEE Transactions on Control Systems Technology*. The proposed title of the special issue is “Control and data-driven modeling in biomedicine”, and it is sponsored by the IEEE CSS Technical Committees on

- 1) Healthcare and Medical Systems,
- 2) System Biology,
- 3) System Identification and Adaptive Control.

When officially approved, consider submitting papers and publicize the effort

# Activities Planned for Jan 2017-May 2017

- **CCTA 2017 invited session**

- We have been asked to organize an invited session at this conference.
- Conference organizers are offering an added incentive to special invitees. Successful invited session proposers that submit their proposals on or before *February 1, 2017* (the papers themselves can be submitted one month later at the paper submission deadline of March 1) will receive a \$50 voucher (one per accepted full session) that can be used on the hotel property during the conference stay (including restaurants).
- What about proposing a session on “**Control and estimation in health and care**”?

- **CDC 2017 invited session**

- Any idea or proposal?

# Other Activities

- Video contest
- Wikipedia project
- Develop special issues for journals
- Organize summer school
- Organize workshops

# Next meeting -- ACC 2017 Seattle

- Minutes of the CDC 2016 meeting will be available on TC webpage soon
- Other activities likely to be reported?