

Minutes of IFAC TC 2.4 Optimal Control Meeting

21 August 2018, NMPC 2018, Madison WI, USA

Chair: Eric Kerrigan

1. Welcome

EK welcomed everybody. The meeting was open for everyone attending the conference and not just existing TC members.

2. What does a TC do?

EK reminded everybody what a TC does and highlighted the following:

- Fostering cooperation and communication among specialists within their particular field of interest
- Planning and monitoring IFAC Technical Events (Symposiums, Conferences, and Workshops) with the NMOs acting as hosts
- Promoting their respective technical areas in other ways, e.g. establishing contacts with other International Organizations, publishing reports on selected topics
- Promoting interest in emerging control fields
- Education
- Engagement between Academia to Industry

3. Scope of TC

EK mentioned that the scope of the TC has, since the World Congress, been revised to the following:

“The development and application of theory and methods for solving optimal control problems, as well as the closed-loop implementation of optimal controllers on real-time computer systems. Particular methods include, but are not limited to, the calculus of variations, Pontryagin's maximum principle, dynamic programming, model predictive control and differential games.”.

He asked for everyone to consider this and contact him with further suggestions for changes, if necessary.

After some input from Daniel Limon, the scope has been updated to:

“The development and application of theory and methods for solving optimal control problems, the development of tailored numerical optimization methods, as well as the closed-loop implementation of optimal controllers on real-time computer systems. Particular methods include, but are not limited to, the calculus of variations, Pontryagin's maximum principle, dynamic programming, model predictive control and differential games. Control methodologies can be based on first-principles models, data-based models or a combination of both.”

All TC members are to consider the updated scope and send suggestions to EK.

4. Online Presence and Social Media

EK pointed out that we need a Vice-Chair for Social Media, to liaise with Linda Bushnell and that members approach him about this if they are interested in taking on this role. He also asked for any volunteers who would be interested in regularly updating the website (currently <https://tc.ifac-control.org/2/4/>), provide material for blogs, tweets, etc.

5. Current Events

It was noted that TC 2.4 is the main sponsor of the following events:

- NMPC 2018: 6th IFAC Conference on Nonlinear Model Predictive Control, Madison WI, USA, 19-22 August 2018 <http://nmnpc2018.org>
- CAO 2018: 17th IFAC Workshop on Control Applications of Optimization, Yekaterinburg, Russia, October 15-19, 2018 <http://cao2018.uran.ru>

6. Events for triennium 2020-2023

EK said that we need to start the process of planning NMPC and CAO for 2021/22. He also mentioned that IFAC would prefer these events to take place in separate years, rather than in the same year, as is the case for 2018.

He also mentioned that we could have more regular activities, e.g. smaller, less formal workshops, if the community felt that there was a need.

EK said he would send out a call for proposals to host the next NMPC. This has since been uploaded to the TC website at <https://tc.ifac-control.org/2/4/activities/>

Jim Rawlings said that he would ask NMPC2018 participants in the post-conference survey when they would like to have the next NMPC - the survey has since indicated that the majority would prefer it to be in 2021.

7. Membership

EK invited everyone to contact him should they wish to become involved as TC members. He said that we were particularly encouraging younger members and would like to increase the diversity of our members. At least 7 more members have been added following the meeting.