**IEEE Technical Committee on Variable Structure and Sliding Mode Control**

**Notes of the Technical Committee Meeting held on December 11th 2013   
at the IEEE CDC, Florence, Italy**

Present: Andrzej Bartoszewicz, Michael Basin, Jean-Pierre Barbot, Chris Edwards, Leonid Fridman, Arie Levant, Umit Ozguner, Josep Olm, Harshal Oza, Alessandro Pisano, Alex Poznyak, Elisabetta Punta, Sarah Spurgeon, Elio Usai

1. The Chair welcomed members to the meeting.

2. The Chair gave an update of the issues raised at Technical Activities Board on 10 December 2013.

***Review of TCs***

The last review happened ten years ago. TAB Chair Frank Allgower has asked all TCs to consider how they are structured. Major messages include that the scope of TCs must not reduce, overlap between TCs is not encouraged and any changes must have buy-in across the TC. It had been reported at TAB that the financial contribution to IEEE CSS of TCs was of interest to BOG. The Chair reported that against the list of expectations of TCs, we do well, apart from in the area of organising meetings within the former Multi-conference structure. Discussion followed. Umit Ozguner proposed that we consider organising the VSS Workshop 2016 as an IEEE event. It was decided that this was too big a decision to make at this TC meeting and that we would debate the issue as a TC in the coming months ready for formal consideration at our next TC meeting at the VSS 2014 Workshop. Michael Basin suggested we consider developing our own journal but this idea was not widely supported by other TC members. The following actions were decided:

**Action Item: TC members will be particularly vigilant to send the Chair details of all activities so that TC reports demonstrate the breadth and depth of our activities. This will enable both TAB and the TC to be prepared for the review with solid data/facts on the contribution of our TC.**

**Action Item: June 2014 is the deadline for TCs to feedback to Frank Allgower (TAB Chair) as to how it wishes to be re-structured. TC members will consider the issues in the coming months. Elio Usai agreed to circulate details from a colleague who had recently organised a workshop entirely within IEEE frameworks to help inform the TC decision about future organisation of our VSS Workshops.**

***Wikipedia Project***

The Chair reported that IFAC will now have a Social Media Liaison Officer and IEEE work in this area will be collaborative with IFAC. A joint CSS/IFAC Editorial Board has been set up and is called the Wikipedia Editorial Board for Automatic Control. All CSS TC Chairs and IFAC TC Chairs are ex-officio members. The CSS has created the new position of Wikipedia Editor and the first holder of the role is Jakob Stoustrup, who will also hold the corresponding role in IFAC for the first term of office to ensure smooth operation of this new scheme. The Wikipedia Editorial Board will have its own Wikipedia page although we cannot give reference to it on the pages we edit.

A current TC member set up the sliding mode, variable structure systems and related pages on Wikipedia. We have recently checked and edited these. The TAB Chair will send us the report on what CSS thinks about the various pages and we will wait for this input and also instructions from Jakob Stoustrup before taking any further action

***Webpages***

It was reported at TAB that the CSS Electronic Publications Editor is not happy with the Technical Activities section of the current website. The framework of the webpages was provided by CSS and our TC has fully engaged in the process of putting data in to the system. We will await further developments in this area.

***Social Meeting***

The issue of holding a social meeting to promote the TCs and what they do to new delegates and members was discussed at TAB. Funding will be available for this activity. The TC fully supported this plan and members were very happy to support any event of this kind organised by CSS,

3. The Chair made a presentation on the development of the VSS 2014 Workshop. The pdf file of the presentation is circulated to all TC members with the meeting notes. The organisation of the event is well underway with the outstanding task being to ensure a good number of papers are submitted before the deadline of 15 January 2014. It was noted that the time available for the reviewing process was short.

4 The meeting discussed the process for deciding the location of VSS 2016 where the timescales are that a decision is required for announcement at VSS 2014 in Nantes. It was noted that considerable effort had been expended on developing a proforma for the last call and that this had been a useful resource not only for those planning to hold the workshop but had also been useful to the TC in making the decision. The Chair tabled the outline proposal already received from Xing Yu to hold VSS 2016 in China. It was noted that there are plans to hold a Summer School in China in 2015 and this activity was strongly supported by the TC members present. The outline proposal from China is attached to the notes.

**Action Item: The Chair will circulate the proforma attached to the notes and publicise the opportunity to bid on the TC website with a deadline for submission of EOI of 28 February 2014. Bids received will be circulated to TC members for consideration and a final decision on the location will be made at VSS 2014.**

5. Election of Vice-Chair

Following the email sent to TC members by the Chair Leonid Fridman was proposed as Vice- Chair of the TC. This nomination was strongly supported in the email debate and ratified by the TC at the meeting. It was noted that a new Vice-Chair would be needed to be in place by 1 January 2015.

**Action Item: The Chair will report to Frank Allgower that Leonid Fridman has been nominated as Vice Chair of the TC and is the TCs nomination as Chair for 2015.**

**Action Item: TC members will consider nominations of the Vice Chair for 2015 and a decision will be made at the TC meeting at the VSS 2014 workshop.**

6. Any other business

Leonid Fridman reported that he was organising a special issue of the IET Journal on Control Theory and Applications in the area of Sliding mode based disturbance estimation, attenuation and fault detection. Michael Basin suggested more publicity of the opportunity should be done.

**Action item: Leonid Fridman to re-circulate details to the TC mailing list** [**IEEE-VSSMC@LISTSERV.TAU.AC.IL**](mailto:IEEE-VSSMC@LISTSERV.TAU.AC.IL) **and provide the Chair with details in an appropriate form for publication on the TC website.**

7. The next TC meeting will take place at VSS 2014 in Nantes.

S.K. Spurgeon

14 December 2013

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**IEEE Technical Committee on Variable Structure and Sliding Mode Control: December 2012 Report**

***TC Chair: Sarah Spurgeon*** [***s.k.spurgeon@kent.ac.uk***](mailto:s.k.spurgeon@kent.ac.uk)

Since the previous report submitted in April 2012, the Variable Structure and Sliding Mode Control community has been involved with the following activities:-

1. Following the twelfth international workshop on variable structure systems which was held in Mumbai from 12th-14th Jan 2012 an edited collection will now be published by Springer Verlag on 'Advances in Sliding mode control-Concepts, Theory and Implementation' . This collection will mainly contain the expanded version of the plenary talks and invited papers presented in VSS 2012 together with some papers which received high review scores.
2. The TC is already involved in planning our next workshop which will be held in Nantes, France in 2014. The TC Chair visited Nantes in June to confirm the local arrangements. The conference will take place from July 1st to July 4th 2014 and will be hosted by Institut de Recherche en Communications et Cybernétique de Nantes – IRCCyN, Ecole Centrale de Nantes. It has been scheduled to dovetail with ECC 2014.
3. Papers have been submitted for a Special Issue of the IMA Journal of Mathematical Control and Information entitled ‘Lyapunov methods for Second Order Sliding Modes’ which will be guest edited by Professor Jaime Moreno.
4. Members of the TC are involved in the development of a Special Issue of Elsevier's Journal MATCOM on “Discontinuous Dynamical Systems: Theory and Numerical Methods” (http://www.maths.nuigalway.ie/~piiroinen/matcom/).
5. TC members have organised an invited session within CDC 2012 in the area of sliding modes for hybrid and impulsive systems. Six papers will be presented.
6. We are organising an invited session on variable structure systems for the IFAC Joint Conference (5th Symposium on System Structure and Control, 11th Workshop on Time-Delay Systems, 6th Workshop on Fractional Differentiation and its Applications), which will take place in Grenoble, France in February 2013 (<http://www.gipsa-lab.fr/SSSC2013/>). The session will contain both theory and application results and the preliminary title is "Recent results on Variable Structure Systems".