**IEEE Technical Committee on Variable Structure Systems and Sliding Modes**

**Notes of the Executive Committee Meeting held on December 15th 2011  
at the IEEE CDC/ECC, Orlando, Florida**

Present: Chris Edwards, Antonella Ferrara, Thierry Floquet, Arie Levant, Wilfrid Perruquetti, Alessandro Pisano, Yuri Shtessel, Sarah Spurgeon, Vadim Utkin

1. The Chair welcomed members to the meeting.

2. The Chair reported on discussions from the Technical Activities Board concerning

i. Multiconference on Systems and Control

ii. That only two high profile events had been successfully bid for from the $5000 per event that was available. More funds are available and bids are welcome.

iii. That CSS may be appointing an agency to produce uniform websites for all TCs. Few details are as yet available.

3. The Chair reported on follow-on actions from the Committee meeting held at CDC 2010 in Atlanta.

* The book entitled “Sliding Modes after the first Decade of the 21st Century” representing a series of tutorials from the 11th International Workshop on Variable Structure Systems (VSS 2010), which is the flagship meeting of the TC has been published in the Springer Lecture Notes in Control and Information Sciences, Vol. 412.
* Special sessions with the theme “Variable Structure and Sliding Mode Control: State of the Art” were presented at the IFAC World Congress in Milan, 2011 and chaired by Professor Vadim Utkin. Professor Yuri Shtessel also organised a special session with the theme Adaptation in Sliding Mode Control.
* A Special Session on “Lyapunov Methods for Second Order Sliding Modes" organised by Leonid M. Fridman and Jaime A. Moreno has been accepted for presentation at the 50th IEEE Conference on Decision and Control and European Control Conference, Orlando, FL, USA in 2011. Six papers will be presented.
* Two special sessions entitled ‘Variable Structure Control Systems and Its Applications’ were organised at the 37th Annual Conference of the IEEE Industrial Electronics Society (IECON 2011) held from 7-11 November 2011 in Melbourne, Australia. A total of twelve papers were presented.
* Special issue of the International Journal of Systems Science on VSS methods for Hybrid systems has been published; Vol 42, no 11, 2011
* A Journal Special Issue of the Franklin Institute entitled “Advances in Guidance and Control of Aerospace Vehicles using Sliding Mode Control and Observation Techniques” guest edited by Professor Yuri B. Shtessel, Dr. Christian H. Tournes and Professor Leonid Fridman includes 17 papers and an editorial which are now published electronically
* For the Franklin Institute Special Issue entitled Optimal Sliding Mode Algorithms for Dynamic Systems,18 papers are published online and Professor Michael Basin, professor Leonid Fridman and Professor Peng Shi are finishing the editorial

4. Members of the TC provided an update on continuing projects.

* 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.
* Special issue on Sliding mode control for vehicle design and identification in the International Journal of Vehicle design led by Professor Leonid Fridman:  
  12 papers  are accepted and 2 are on the second revision
* Special issue of CEP on VSS methods in applications led by Professor Leonid Fridman:  
  9 papers are on the second round of review

5. Report on arrangements for VSS 2012 by Bijnan Bandyopadhyay

*Programme*

* VSS'12 will feature 3 plenary, 10 invited talks and as many as 70 contributed research articles. A record number of 109 papers were submitted to the workshop out of which 87 are accepted. The papers received are ranging from mathematical theory to real world applications of very diverse nature. Each paper received at least two reviews and the qualitative score in the range of 1 to 6. The papers with average score above 3 have been accepted for presentation at the workshop.

*Banquet and Meal Arrangements*

* Everyday lunch and high-tea are arranged at the VMCC and one banquet dinner at The Ramada (5 Star) is also arranged.

*Accommodation and Transportation*

* The organizing committee has negotiated special rates for the workshop delegates in two renowned hotels in the area. The Ramada Powai (5 Star) with approximate tariff $125 and The Residence (4 Star) with approximate tariff $100. The transportation from these two hotels to the workshop venueand return has also been arranged.

*Tours and Travels*

* A half day city tour is planned for the last day of the workshop. Moreover well-known tour organizer Thomas Cook has given us some package tours to some most visited locations in India. This information has also been made available on the workshop webpage.

*Student Support*

* Please encourage students to bid for the scholarships at

<http://www.sc.iitb.ac.in/~vss2012/student_schol.php>

Effectively pays the registration fee.

6. The location for VSS 2014 was discussed. An expression of interest had been received from the French VSS community. No other expressions of interest had been received and the published deadline had now passed. The meeting decided to invite the French colleagues to complete the bid form which would be circulated to all members of the TC by email for approval. SKS agreed to send the Form to Frank Plestan, with copies to Wilfrid Perruquetti, Thierry Floquet, Jean-Pierre Barbot and Bernard Brogliatto.

7. Future activities were discussed

* IEEE CSS have appointed Sarah Spurgeon an IEEE distinguished lecturer for the next three years. SKS will be giving the first VSSMC webinar on 25th January 2012:

<http://www.ieeecss.org/general/css-webinar-discontinuous-observers-basic-properties-robust-fault-detection-and-condition-mo>

TC members were encouraged to invite students to sign in for this to support the SMC community and show IEEE we are a vibrant topic area.

* Antonella Ferrara reported that her second period as Associate Editor for the IEEE Transactions on Automatic Control was almost over and that she had recommended Chris Edwards as her replacement. The TC members all agreed this was an excellent choice.
* Antonella Ferrara reported that she had been appointed as an invited member of the Board of Governors of IEEE CSS. All TC members congratulated Antonella on this excellent achievement which reflects well on the community.
* Thierry Floquet reported that a special session on sliding mode control in hybrid systems had been organised for the ADHS conference in Eindhoven, 2012. Twelve papers had been prepared.
* Antonella Ferrara suggested that the TC could better advertise special issue and special session opportunities. Everyone agreed that this was a good idea. Sarah Spurgeon said that if any details were passed on to her she could both send them to the TC email list as well as include them on the website.
* Alessandro Pisano suggested it would be a good idea to develop a compilation of important references in different aspects of sliding mode and variable structure control and observation for publication on the website. Some discussion as to how to do this ensued including discussion of Mendeley. Alessandro and Thierry undertook to look in to this idea further and report back to the committee.
* The desirability of having an open mailing list that could be joined by anyone and accessed by all was suggested. Arie Levant undertook to ask if his University could host such a mailing list for the VSS and sliding mode community.

S.K. Spurgeon

15 December 2011