Minutes of meeting of IEEE TC on control education December 14th 2017 (Held at the CDC in Melbourne)

In attendance: Linda Bushnell, John Baras, Na Li, Anu Annaswamy, Aparina Dhinakaran, Francesco Bullo, Sebatian Trimpe, Angela Schoellig, Bozenna Pasik-Duncan, Damian Varagiolo, Oliver Jackson (Springer), SIAM representative, Anthony Rossiter.

The committee needs to express its thanks to the previous chair Prof Sebastian Dormido who had to retire at short notice due to health issues. We wish him well in the future and thank him for all his contributions.

A brief review of the year's main activities was presented and will appear on the TC website shortly.

Actions from TAB and on going discussion items were summarised:

- We are being asked to be more proactive at disseminating our activities linked to the TC. An obvious way to do this is to ensure regular updates appear on the TC website. Please can you send the chair any relevant news such as: (i) presentations linked to education; (ii) outreach activities; (iii) plans and calls for contributors; (iv) prizes and awards; (v) etc.
- We noted that regular outreach contributions to ACC and CDC are, in effect, hardwired and expected. While Bozenna often takes the lead (with support from Bonnie Heck) on these, can other members please volunteer support as and when they know they expect to attend. Other contributions such as panel sessions and invited sessions are to be encouraged.
- In 2019, the IFAC ACE symposium will be held in partnership with ACC. Please consider now how IEEE members can make this symposium one to remember and talk to Bozenna who is organising this with your ideas.
- Please let the TC chair know of recommendations for membership of the TC as a large and active membership is core to maintaining a good level of activity.
- Similarly, please let the TC chair know of recommendations for CEB so he can follow up as appropriate.
- In general terms it would be good if the TC had a vision or project that could be pursued together and also perhaps distinct from that followed by the partner IFAC TC. It would be good if some discussion of this could be undertaken online over the next few months although the feeling at the meeting was that this may be easiest summarised as the IEEE TC focus on activities at ACC, CDC and CCTA. A logical project would be linked to the panel discussion below and getting some consensus on the content and delivery of a core control curriculum.

A panel discussion item was raised on the role of textbooks in a modern and future engineering education. The main points raised were:

John Baras is keen to run a project developing a resource which enable students to identify a path through foundational control and systems topics, with some self assessment questions leading to automated guidance on which resources to access and in which order. To take this forward a team of people would need to develop the basic resources and also, some expertise and support would be needed to develop the web interface. While most attendees recognised the potential value of such a resource, there was some nervousness about the practicalities such as: (i) how would the IEEE membership agree the topics, notation and presentation emphasis; (ii) ensuring the coverage was suitable for a variety of engineering disciplines; (iii) long term maintenance and support would need agreeing at the outset to ensure value for money; (iv) copyright issues. In consequence the members present did not reach a conclusion on how to take this item forward before time ran out. The discussion to be continued via email.

The publishers who turned up towards the end offered an alternative paradigm for the future where they would take on responsibility for creating a variety of resource types and modern delivery mechanisms (eg mobile compatible). They would like Universities to purchase site licenses with which any student can access any book from a set catalogue and thus ensuring staff can guarantee student access to the text book of their choosing. Being soft copy access is likely to fit better with modern student preferences as well as enabling access to embedded quizzes, animations, videos and so forth. The main obstacle is such a model works for an academic if and only if their institution has the relevant site license.