

## Technical Committee on Computer Aided Control System Design

**From:** Andras Varga, Chair, andras.varga@dlr.de

**Date:** November 7, 2002

The activities in the last 12 months were oriented towards:

1. **Improving the quality of information provided to the CACSD community**

A thorough updating of the CACSD TC homepage has been done. This consisted of checking the whole lists of links and adding new information. Complete information (i.e., conference program, plenary speakers, program at a glance etc.) is available on the CACSD TC homepage for the last 8 CACSD Symposiums. A history page has been added listing all previous CACSD events and former TC Chairs. The information from the existing working groups have been also updated. CACSD related information is also distributed via the E-Letter.

2. **New Action Group on “Interval Methods for Control”**

A new Action Group has been started to cover research and software development activities in the field of “Interval Methods for Control”. A very informative home page for this Action Group has been prepared by Prof. J. Vehi from the University of Girona at [http://eia.udg.es/ieee\\_interval/](http://eia.udg.es/ieee_interval/), with links to active groups, current projects, available software, and people working in this field.

3. **Meeting of TC members in Barcelona**

A TC meeting took place in June in Barcelona (at the IFAC Congress), with the participation of three Action Groups responsible (P. Mosterman, C. Schmid, H. Mann) and two invited experts working in the field of symbolic computations for CACSD (A. Vardulakis, N. Karampetakis). The Agenda included, besides discussion on general aspects (organizational issues, TC homepage maintenance), a discussion on increasing the visibility of CACSD activities by organizing invited sessions at conferences, preparing special issues focusing on particular CACSD domains, starting new Action Groups (e.g., on symbolic computations for CACSD), joining CACSD and CCA conferences, etc.

4. **“Numerical Awareness in Control” Initiative**

This proposal of me (see Minutes of BoG meeting of May 7, 20002) intends to find ways to improve the overall understanding of numerical issues in control related computations, which are often hidden from users of “black-box” software tools. To increase numerical awareness in control, one of my suggestions was to prepare a special issue of the CSM on numerical methods for control. It was agreed with the Editor of CSM, Tariq Samad, that I will serve as Guest Editor for a dedicated issue of the CSM (tentatively scheduled for Feb. 2004), to which some of the best experts in the control numerics field will contribute.

5. **Preparation of CACSD'2004 Symposium**

The preparations for the joint CCA-CACSD-ISIC'2004 event are quite advanced. I participated on behalf of the TC on CACSD at an OpCom Meeting in Barcelona (at the IFAC Congress), where several organizational issue were discussed. The CACSD'04 General Chair Michael Sebek took part at this meeting too.

6. **Avoiding parallel IEEE and IFAC CACSD Symposiums**

The IEEE Symposium on CACSD is organized by the IEEE CSS every two years, while the IFAC Symposium on CACSD is organized by IFAC every three years. Thus, every six years an overlap of these two events occurs which splits the CACSD community, many experts being able to attend only one of the two events. In order to allow a broader attendance of specialists, theoreticians and practitioners, an agreement between IEEE and IFAC to avoid overlapping of these events is needed. In the discussions over the last few years T. Basar, C. Schrader, L. Shaw, A. Haddad and myself were involved on behalf of the IEEE CSS and P. Albertos and V. Kucera on behalf of IFAC. I had discussions in Barcelona with the new IFAC president V. Kucera and agreed on the need to avoid future overlappings. A possible solution which came out from discussions completely avoids the difficulties caused by copyright issues. It was suggested (mainly by L. Shaw and V. Kucera) to alternate each six years the IEEE and IFAC events, thus skipping once in six years either the IEEE or the IFAC event. To achieve this, however, requires changing the status of the IFAC event to an “IFAC Conference” from an “IFAC Symposium” (which it is compulsory to hold each three years).

## 7. Activities within Action Groups

### 7.1. *Control Numerics and Software – Chair Andras Varga*

major updating of web pages, especially the sections “News”, “Projects” and “Software”

Launching the “Numerical Awareness in Control” Initiative by assigning responsible authors for 5 survey papers on different aspects of developing numerical methods and software for CACSD: P. Van Dooren (algorithm development), V. Mehrman (sensitivity and condition of problems), P. Benner (large scale computations), S. Van Huffel (numerical software), A. Varga (from algorithm development to robust numerical software implementation).

### 7.2. *Interval Method for Control – Chair Josep Vehi*

preparing web pages for this new Action Group;

### 7.3. *Teachware for CACSD – Chair Christian Schmid*

maintained the web pages;

launching a Leonardo da Vinci project "Course on dynamics of multidisciplinary and controlled systems in a virtual lab" whose outcomes will be partly incorporated into the web pages of this Action Groups.

### 7.4. *Hybrid Systems - Chair Peter Mosterman*

maintained the web pages;

editing a special issue of the IEEE Transaction on Control Systems Technology on “Computer automated multiparadigm modeling”.

### 7.5. *Multidisciplinary System Simulation – Chair Herman Mann*

maintained and updated the web pages; an impressive access statistics can be seen at

<http://virtual.cvut.cz/cgi-bin/awstats.pl?config=myvirtualhostname>

launching a Leonardo da Vinci project "Course on dynamics of multidisciplinary and controlled systems in a virtual lab", whose outcomes will be partly incorporated into the web pages of this Action Group.

### 7.6. *Evolutionary Computation– Chair Yun Li*

maintained the web pages;

## Technical Committee on Control Education

**From:** Bozenna Pasik-Duncan, Chair, bozenna@math.ukans.edu

**Date:** November 10, 2002

### Contents of Report:

1. Open Planning Meeting of the TCCE in Alaska Minutes
2. Partnership With IFAC In Control Education
3. 2002 Control Awareness Days: A Workshop for Las Vegas High School Students on the Ubiquity of Control
4. Meeting of the TCCE in Las Vegas, Open to All Members
5. 2003 TCCE Activities at 2003 ACC in Denver and 2003 CDC in Hawaii, proposals
6. Joint project with Standing Committee on Women in Control, Proposal for NSF-CSS Mentoring Travel Grants for Women
7. Joint project with Standing Committee on Women in Control, Proposal for CSS Workshop for Women Graduate Students and Recent Ph.D.'s in Honor of Cheryl Schrader, 2003 President of CSS
8. Members and Corresponding Members of the TCCE
9. Collaborative Effort in Control Education
10. Web Page and Related Links
11. Call for members' input.
12. Acknowledgments

### 1. Open Planning Meeting of IEEE CSS Technical Committee on Control Education

American Control Conference 2002; Anchorage Hilton; 09 May 2002