

2014 IEEE CSS Strategic Plan

Report of the Long-Range Planning Committee to the Board of Governors of the IEEE Control Systems Society

The Planning Process and the Goals

The Long Range Planning Committee (LRPC, in the sequel) used to convene once every five years to review and provide an update to the Control System Society's 5-year Plan. At present, the LRPC meets every year defining new short-, medium- and long-range initiatives, to improve the health and the vitality of the Control Systems Society.

In 2014 the members of the LRPC are:

Maria Elena Valcher, Chair and President-Elect

Jay Farrell, President

Yutaka Yamamoto, Past President

Frank Allgöwer, Vice President for Tehnical Activities

Anuradha Annaswamy, Vice President for Conference Activities

Francesco Bullo, Vice President for Publication Activities

Edwin Chong, Vice President for Financial Activities

Kirsten Morris, Vice President for Member Activities

Richard Middleton, appointed member

George Pappas, appointed member

The members of the LRPC met in Portland, Oregon, during the 2014 American Control Conference, with the purpose of identifying and discussing future challenges that the society may face both in the various activities in which it is involved (conference organization, journal publication, and technical activities), as well as in providing continuous support and services to its members, meanwhile ensuring a solid financial status. To this end, in addition to the LRPC members (which include all society Presidents and VPs), all the Editors in Chief of the four CSS publications (IEEE TAC, IEEE TCST, IEEE TCNS and IEEE CSM)¹ have been invited to attend the meeting and to provide their opinions. Also, suggestions and insights have been sought from two CSS past presidents (Christos Cassandras and Roberto Tempo).

The final goal was to conceive a concise but sufficiently detailed document, where the main issues and related action items should be presented. In some cases, a clear solution has been identified for a specific initiative or problem. This has been formalized in an action item to be addressed in a short term. In other cases, a problem solution has not been regarded as mature yet, and further discussion (possibly an ad hoc task force) will be necessary. So, some initiatives or items have been regarded as goals of medium or long term plans. This is coherent with the current perspective of seeing the LRPC work and the strategic plan as work-in-progress, to be continuously adjusted and updated, based on the changing scenario and new needs.

Crucial issues and Proposed Solutions

The following issues and the proposed action items are grouped along organizational lines:

- Conference Activities

¹ We find the opportunity to mention that the IEEE CSS has now also a financially co-sponsored journal (Life Sciences Letters).

- Financial Activities
- Member Activities
- Publication Activities
- Technical Activities
- Awards
- Governance
- Other

In some cases, the recommendations are organized into short-term items, which should be considered for implementation within the next two years, and longer-term items, which provide guidance over the next five years and beyond.

The recommendations are presented as bulleted lists, rather than in an expository format. The bullets tend to be self-explanatory, and it was decided that little additional benefit could be gained from more lengthy explanations. As already pointed out, the main goal of this report is to list a number of relevant issues and to provide short-term action items for those that appear to be mature and somewhat settled. Mid-term and long-term issues that may affect the society's future viability and vitality, but whose solution is not mature yet, are listed mainly as a memorandum for the future activities of the LRPC and of the CSS ExCom.

Conference Activities

Short Term Plan

- Reinforce the role of the Conference Operation Committee. In particular, a repository of conference related material (GC reports, conference hotel contracts, conference budgets, guidelines, etc.) should be available to support conference organization.
- Train young researchers to deliver better talks. Encourage them with Best Presentation Awards, as it happens for other conferences (e.g. the American Control Conference). Special forums on how to give a good talk was given in CDC 2013, and may be continued for the future, along with guidelines posted on the CSS website.
- Establish new rules for Technical Co-Sponsorship with Proceedings Acquisition and for whether and how to distribute the related costs, in light of the new IEEE TAB motion regarding this cost allocation, approved in February 2014.
- Keep monitoring closely conference budgets, by requiring that prior to BoG approval the budget is accurately checked by the VPCA, the VPFA and the Conference Operations Committee Chair. This same careful check should be performed for hotel contracts, even if they do not require BoG approval. Be sure that in the hotel contracts there is the possibility for some adjustments after the first submission deadline, when the number of submissions and hence a reasonable estimate of the number of participants will be possible.
- Prepare a manual for VPCA including an FAQ. Connect this manual with the GC-manual.
- Help in streamlining Conference Websites for CDC and MSC/CCTA.

Medium and Long Term Plan

- Keep exploring less standard conference venues through the new CSS-sponsored conference CCTA (also as an outreach activity).
- Consider making SCONES, the Symposium on the Control of Networked Systems that will be held in October 2014 to celebrate the inaugural issue of the IEEE Transaction on Network Control Systems (TCNS), a regular CSS event: biannual conference (alternating with NecSys).
- Keep training volunteers for conference organization by providing support material and a close connection with people who served in OpComs in the past.
- In light of newly introduced restrictive IEEE rules regarding the maximum overlap between conference publications and journal publications, keep monitoring what

could be the best “format” (page number) for a conference publication (e.g., 6 pages, 4 pages, 2 pages).

- Industrial sponsorship of some conferences and conference activities is desirable to increase industrial participation in the technical programs.
- For Co-Sponsored Conferences, look for new non-standard application areas within engineering (e.g. networking) and outside engineering (e.g. biology).

Financial Activities

- Keep CSS governance aware of financial issues and budgeting problems.
- Closely communicate with IEEE TAB about financial issues.
- Be aware of how to handle initiatives in the best possible way.

Member Activities

Short Term Plan

- Distinguished Lecturer Program: Write clear terms of reference and also try to have more invitations from local chapters to lecturers.
- International Affairs Committee: Evaluate its function now that the Developing Nations Conference Support program does not exist.
- Continue the program of recognizing member contributions by nominating members for senior membership and elevation to fellow in IEEE, with particular attention to female members and those in regions 9-10.
- Investigate how can we make our applications for Fellow more successful: understand what are the evaluation mechanisms at IEEE level.
- Use the "The Impact of Control 2" publication initiative to promote membership in IEEE.
- Increase membership value: set initiatives, services, web contents etc. that are devoted to CSS members only.
- Propose career models for young theorists/engineers: workshops at conferences.
- Consider creation of an industry chair. This person would be responsible for identifying needs and possible useful programs/activities for this group.
- Take the opportunity offered by MSC 2016 to increase membership in South America.

Medium and Long Term Plan

- Develop new methods for promoting the systems/control field to high school students.
- Develop appropriate strategies for promoting CSS membership in South America, Africa and Asia and also for supporting existing members in those continents
- Develop activities to address the needs of non-academic members in CSS.
- Support and encourage women in control; attempt to increase the number of female members
- Develop a social media strategy for IEEE CSS members, as well as connecting CSS members with each other, relevant events, as well as professional opportunities.

Publications Activities

Short Term Plan

- Develop text and pdf versions of the E-letter.

- Work with IEEE to improve the quality of and the features embedded in the files appearing on IEEE Xplore.
- Adjust the number of AEs in each journal to maintain an appropriate reasonable workload.
- Maintain regular communications with EiCs and editorial boards.

Medium and Long Term Plan

- Work on the journal quality (quality and number of AEs, length of publication cycle, backlog and other quality control indicators).
- Adopt uniform rational policies and clarify expectations for editorial service contracts.
- Continue monitoring the quality of our society publications, e.g., through the Ethics in Publishing committee and by monitoring publication volume growth.
- Consider alternative editorial structures (Senior Editors work with subgroups of AEs, Deputy Editor in Chief training for EiC position).
- Consider alternative kinds of publications (e.g., mid-length papers, tutorials and surveys, selected areas in Systems and Control).
- Consider a Best Associate Editor Award for each journal/magazine.
- Include electronic access to TCNS as a standard benefit of CSS membership.
- Continue monitoring and supporting ArXiv and modern publication venues.

Technical Activities

Short Term Plan

- Liaisons: revise their scope, maintain only the meaningful ones, encourage and monitor the ones we want to keep.
- Technical Committees: clarify their scope and what we expect from them. Encourage them to be active. Involve them more in the conferences possibly also through CEB. Flexibility: research topics may change over the years.
- TC web site project: should be updated and revised so that they become more informative and homogeneous.
- Encourage more participation by TCs in conferences (e.g., preparation and submission of invited sessions).

Medium and Long Term Plan

- Strengthen the (informal) interaction of TCs with CSS journals and conferences.
- Raise the level of TC activity in popularizing control outside CSS but also put more emphasis on the expert role the TCs can play within the field, in both research and education.
- Increase the emphasis on activities in Asia, Europe, and S. America.
- Increase the participation from industry in TCs.
- Increase the participation from women in TCs.

Awards

Short Term Plan

- Develop an online web-based system to collect in any easy form nominations and reference forms, potentially also their evaluation.
- Create an Awards Nomination Chair to stimulate nominations of deserving candidates.
- Create mechanisms to monitor award nominations so that sufficient numbers of high quality nominations are received.

Medium and Long Term Plan

- Consider the creation of additional mid-career awards.

Governance

Short Term Plan

- Clarify the items that should NOT be put on the Consent Agenda.
- Communicate with other societies in order to gain more leverage when dealing with IEEE.
- Establish clear procedures for information passing: develop a detailed procedures manual for each CSS activity and create archives where past information and documents can be easily retrieved.

Medium and Long Term Plan

- Consider the possibility of a two-year term as President Elect and a two-year term as President (possibly there would be no need to retain also a Past President). Alternatively, a two year term as President, preceded by a one year term as President Elect and followed by a one year term as Past President.

Other

- Keep the society international, both at the member level and at the leadership level. Search for international balance also inside conference OpComs and Program Committees.
- Increase public awareness of the importance of control. Help publish introductory books on control?
- Operate to influence granting agencies priorities.
- The Impact of Control 2: work on the distribution to increase its impact. Consider expanding some of the contributors to submit them to CSM.
- How to encourage the interactions with other areas and make them beneficial? Journals? Conferences? Liaisons? TCs?
- Strategy for working with LSTC on the Life Sciences Letters publication
- Organize various special sessions at CDC/MS/CCTA to help young researchers to develop their careers.

August 8, 2014

Endorsed by ExCom on October 25, 2014