

2021: The IEEE Control Systems Society...Under Review

I am pleased to welcome you to my first column of 2022, following the very intriguing "President's Message" invited column, "The Theory-Practice-Entrepreneurship Gap," by Steven Low (Caltech, United States) that dealt with the gap between theory and entrepreneurship in the December 2021 issue of *IEEE Control Systems*.

The title of my message contains the words "under review"; I am joking a bit about terms that we encounter so many times when we submit articles for possible publication. As I mentioned in my inaugural column, 2021 was a busy year since our publications and our Society were undergoing the review by IEEE (it happens every five years).

Four out of five IEEE Control Systems Society (CSS) publications were reviewed in June 2021 by the IEEE Periodicals Review and Advisory Committee (PRAC) within the IEEE Technical Activities Board (TAB) Periodicals Committee: *IEEE Transactions on Automatic Control*, *IEEE Transactions on Control Systems Technology*, *IEEE Transactions on Control of Network Systems*, and *IEEE Control Systems*. The four editors-in-chief worked diligently with the vice president of Publication Activities. The editors submitted and discussed their comprehensive reports during the meetings with PRAC. Even if the review exercise were still ongoing, PRAC has already informally confirmed the overall excellent quality and best practices of our four publications during June's meetings.

IEEE Control Systems Letters was reviewed in 2020. Note a few excerpts from the PRAC remarks:

- » "The Control Systems Letters (L-CSS) is a relatively new publication, and it appears to be in very good shape. It has healthy submission figures, good statistics in terms of timeliness, and decent finances. Because of its newness it is not yet able to report bibliometric figures from JCR, but according to Scopus its 2018 CiteScore was 2.06, which is good."
- » "A notable feature of the Letters is its tight link with the IEEE Control Systems Society's flagship Conference on Decision and Control (CDC): papers can be submitted for simultaneous consideration at both. This link, similar to one at the Robotics and Automation Society, has been very successful, and can be considered a "Best Practice" for IEEE publications (and conferences), in terms of quality, conference health and author experience."
- » "The preparation-completeness, readability, clarity-of this PRAC report was exemplary, and although there are "blue notes" from which edits are requested, these are relatively minor. There are some suggestions, but by and large the publication more than satisfies IEEE practices and meets IEEE goals."

What else? This success and the deployment of several best practices must be ascribed to the volunteers on the editorial board and the reviewers, but especially to the vision and outstanding service of Founding Editor-in-Chief Prof. Elena Valcher.

Concerning our Society as a whole, I'm writing this column the day af-

ter (literally) submitting to TAB the report on CSS activities during the past five years for review by the Society and Council Review Committee (SCRC). The remarks and recommendations by the SCRC were discussed during a meeting held virtually on November 10, 2021 and attended by the entire CSS Executive Committee. At the time of writing this column, we do not know the review's outcome. However, it is still worth commenting on our report's preparation, content, and the "messages" we can extract from this massive exercise.

The 2021 CSS Activity Report describes all of our activities: the strategy and its implementation, governance, contributions to the standards, our conferences and publications, and our membership and education activities. Of course, we were also required to report on our finances. Finally, we described the CSS successes and effective practices that might benefit other Societies or Councils and positively impact the CSS.

During the summer, I was busy writing a large five-year grant proposal. Working on research fundraising is a necessary—but generally not very exciting—job, and not only because of the demotivating low success rate. Like many things in life, it has a positive aspect: we are "forced" to think strategically about what research we want to pursue in the next five years. Preparing the five-year report of a professional Society like the CSS is not that different. Starting with what has been achieved, we need to strategically think about what the CSS should become, building on the strengths and addressing the criticalities. In this sense, the first essential task we worked on was updating the

CSS Strategic Plan and laying down the CSS Operations Plan. These two documents are significant parts of the report that the SCRC reviews.

Next, the CSS vice presidents worked on reporting their specific activities (publications, conferences, technical subjects, membership, and finance). Furthermore, the chairs of some relevant standing committees helped with sections of the report (for example, the section on standards).

Finally, the past president and I described how the CSS addressed the SCRC recommendations of the 2016 five-year review exercise and illustrated the CSS successes and effective practices within the last five-year timespan. Note a few excerpts from CSS successes that we selected for our report:

- » “The CSS is in a very healthy financial state because of a simultaneous fiscal rigor in the management, oversight, and sponsorship of all of our society’s activities, including journals and conferences, which has led to a steady generation of surplus each year. The expense to reserves ratio has been increasing beyond what the society feels necessary, and we have started to become more aspirational and ambitious into turning the society’s surplus into value-added for the membership and outreach projects. This has led us to establish the CSS Fund at IEEE Foundation. The position of Vice President for Diversity, Outreach, and Development was recently created to help coordinate our efforts in this area.”
- » “The strong volunteer ethos coupled with a technically excellent society has allowed CSS to maintain reliance on volunteers for its operation, with exacting standards and goals of excellence. This has been central in avoiding the relatively larger overheads that some of the other societies have experienced. CSS strongly believes in the importance of keeping a “bottom-up” strategy toward members and the com-

munity at large. Having been able to nurture our strong volunteer-based vision and operations steadily and continuously is a remarkable success.”

- » “The technical quality of our publications in journals and in conferences is rigorously developed and reviewed, leading to significant activity in downloads from IEEE *Xplore*, subscriptions to our publications, and attendance at our conferences. Indeed, our publications have extraordinary citation half-lives, which is indicative of their building an increasingly important research corpus.”
- » “The IEEE Letters of the Control Systems Society (L-CSS) that we launched in 2017 is an extraordinary success both in terms of the increase in the number of submissions (300 in 2017, 950 in 2020) and of creating a remarkable added value from linking this high-quality rapid publication venue with our main conferences (CDC and, more recently, ACC) – a win-win success story.”
- » “Due to the pandemic, our two 2020 conferences (CDC and CCTA) have been held in virtual mode. Despite the unfortunate impossibility of in-person participation, the number of (virtual) attendees did not experience any significant drop. Indeed, the number of registrations by attendees without a coauthored paper increased remarkably, encouraged by the reduced registration rate. In addition to being beneficial in terms of generating a very healthy financial surplus, this paved the way to a new mode of participation that enabled an increased geographic diversity. Owing to this success, CSS is planning to keep a significant online component in future conferences.”

Also, note a few effective practices and their impact that we reported that might also benefit other societies:

- » *The Society president’s term of two years. Impact:* A two-year term

gives more time to the president to establish an effective interaction with IEEE central and to identify the future strategy of the Society as well as its implementation. In a nutshell, more impact is generated.

- » *Majority of elected members in the Society Board of Governors. Impact:* This ensures that the Society membership and the community at large have a proper representation in the Society’s governance.
- » *Establishment of a Society’s Fund at the IEEE Foundation. Impact:* This enables going beyond standard narrow-spectrum activities to “think big” projects for the benefit of the membership and the public.
- » *Addition of a diversity and inclusion chair in the Conference Operating Committees. Impact:* This provides an effective identification of underserved demographics and a proposal to the CSS Governance of actions to better serve them.
- » *Inclusion of a virtual/online reduced registration rate component to in-person conferences, workshops, and general-interest dissemination events. Impact:* This allows for a wider participation of young professionals, nonacademic professionals (industry, government), and students for whom in-person attendance is not cost-effective or is difficult because of logistics issues (for example, obtaining visas).

Comparing the CSS successes and effective practices within the last five years with the ones reported in the 2016 SCRC review, we note that ... they are 100% new! This is a great sign of how lively, active, modern, and forward looking the CSS is.

One may wonder: what is the main ingredient for our success? In my opinion, it is just this: the CSS is made by volunteers and serves our volunteers and our community of scholars, students, and practitioners. Our “bottom-up” vision and strategy make the CSS what it is today and what it will be in the future.

In closing, 2021 has been an exciting journey in my service as CSS president. I learned a lot from all of our conference organizers, journal editors, the members of the Board of Governors, and all the volunteers who served with energy and enthusiasm during these difficult times. I am proud to be your president and even prouder to be a member of our great CSS (I'm using the same sentence that Ed Chong, the 2017 CSS president, wrote in the closing of his July 2017 presidential columns [1]).

Let me give a very special thank you to the CSS officers, who are the backbone of our governance: Anu Annaswami, Andrew Alleyne, Jorge Cortes, Marika Di Benedetto, Alessandro Giua, Joao Hespanha, and Jing Sun, without forgetting Bob Bitmead, our past-past

president. Their help, hard work, and great advice have been very important for my first year of service.

As I mentioned in my inaugural column [2], serving for two years instead of one gives the president a great opportunity to be more effective in enabling the implementation of strategies already in place and consolidating the long-term initiatives of our Society. I'm very much looking forward to the second year of my term and hearing your thoughts. Please do not hesitate to get in touch with me at t.parisini@imperial.ac.uk.

We keep on alternating a column from the president with one from a world-renowned invited guest from the industry or the academic community at large. Prof. Robert Shorten

(Imperial College London, United Kingdom) will write the next column. Bob has a unique professional academic and industrial profile, and he will share his insights on systems and control science playing a fundamental role in the research on a sharing economy for the benefit of technology and humanity.

Thomas Parisini

REFERENCES

- [1] E. K. P. Chong, "Our Society's best practices," *IEEE Control Syst.*, vol. 37, no. 4, pp. 9–10, Aug. 2017, doi: 10.1109/MCS.2017.2697201.
- [2] T. Parisini, "The IEEE Control Systems Society: An inclusive ecosystem for volunteers [President's Message]," *IEEE Control Syst.*, vol. 41, no. 1, pp. 8–10, Feb. 2021, doi: 10.1109/MCS.2020.3033100.



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