

Year-End Summary and Farewell

As discussed last year, it was decided to remove the word “magazine” from the publication title *IEEE Control Systems Magazine* (CSM) and consistently adopt the name *IEEE Control Systems* across all IEEE Control Systems Society (CSS) activities. The name change was actually implemented by the IEEE in 1991, and many (but not all) official IEEE documents refer to the magazine as *IEEE Control Systems*. As such, the decision by the Board of Governors (BoG) to drop the word magazine from all official documents, websites, and pagination corrects this inconsistency rather than continuing to ignore it. Dropping the word from the title also better

reflects the fact that the scholarly articles in the magazine are peer reviewed, just as they are in CSS journals. The name correction was approved by the IEEE Technical Activities Board Periodicals Committee in 2019 and will be implemented as of the February 2020 issue. Thus, this will be the last issue of CSM, and it will also be my last issue as editor-in-chief (EiC).

IEEE Control Systems (as it will be known in the future, although I will still think of it as CSM) continues to do well, with (at the time of this writing in early August) approximately 41 feature, “Applications of Control,” and “Focus on Education” article submissions in 2019. That total is slightly higher than last year, which is good to see. The articles for one special issue have been submitted for review,

and a second special issue is also in the works. The recently announced impact factor for CSM is 6.228, which is higher than the 2018 result (5.02). While a high impact factor is not the primary figure of merit for a Society magazine, it is nice to know that the published articles are having an impact on the field.

One of the main foci, of course, is for CSM to provide a window into the ongoing events in the CSS community, which is accomplished by including (on average) two technical committee reports, two to three conference reports, one book review, and three to four “People in Control” interviews per issue. Accumulating all of that material for each issue is a complex task, and the CSS vice president of Technical Activities (Joao Hespanha), the

Digital Object Identifier 10.1109/MCS.2019.2937255
Date of current version: 13 November 2019



Jonathan How (center) flanked by the Royal Air Force Red Arrows team during a visit to the Massachusetts Institute of Technology, Cambridge, while they were on their 2019 tour of North America.

numerous technical committee chairs, the book review associate editors (Scott Ploen, Hong Yue, and Hesuan Hu), and the corresponding editor for conference activities (Joshua Isom) are all thanked for their efforts to put those reports together.

As many previous EiCs have also noted in their last editorial, I will not miss the constant deadlines associated with this position, but I will miss working with the great team at the IEEE (Geri Krolin-Taylor) and the fantastic members of the editorial board (Bechcet Acikmese, Francesco Borrelli, Scott Bortoff, Daniel Davison, Warren Dixon, Antonella Ferrara, Rolf Find-

eisen, Yiguang Hong, Sean Humbert, William Pasillas-Lepine, Marco Pavone, Daniel Quevedo, Camille Alain Rabbath, Simona Sacone, Doris Sáez Hueichapan, Changyun Wen, and Yildiray Yildiz). I also extend special thanks to Jeremy VanAntwerp and Alicia Nicki Washington who, as the assistant editor/senior technical writer for CSM, have helped me immensely over the past five years. Finally, many thanks to my students and postdocs (in particular, Shayegan Omidshafiei, Kasra Khosoussi, Brett Lopez, and Golnaz Habibi) for their frequent suggestions on editorial topics and feedback on my writing.

As I wind down my efforts on CSM, I look forward to further interactions within the CSS community as a member of the BoG (2020–2022) and the program vice chair for tutorial sessions for the 2021 Conference on Decision and Control in Austin, Texas. Hopefully, I leave CSM in at least as good a position as when I inherited it, and I now pass the baton into the very capable hands of the new EiC, Rodolpe Sepulchre. As always, I look forward to your feedback.

Jonathan P. How



Big Ideas

Since 2017, the U.S. National Science Foundation (NSF) has been building a foundation for the Big Ideas through pioneering research and pilot activities. In 2019, NSF will invest \$30 million in each Big Idea. The list of NSF's 10 Big Ideas includes the following:

- 1) Future of Work at the Human-Technology Frontier: Catalyzing interdisciplinary science and engineering research to understand and build the human-technology relationship.
- 2) Growing Convergence Research: Merging ideas, approaches, tools, and technologies from widely diverse fields of science and engineering to stimulate discovery and innovation.
- 3) Harnessing the Data Revolution: Engaging the research community in the pursuit of fundamental research in data science and engineering, the development of a cohesive, federated, large-scale approach to research data infrastructure.
- 4) Mid-Scale Research Infrastructure: Developing an agile process for funding experimental research capabilities in the mid-scale range.
- 5) Navigating the New Arctic: Establishing an observing network of mobile and fixed platforms and tools across the Arctic to document and understand the Arctic's rapid biological, physical, chemical, and social changes.
- 6) NSF 2026: Stimulating and seeding investments in bold foundational research questions that are large in scope, innovative in character, originate outside of any particular NSF directorate, and may require a long-term commitment.
- 7) NSF Includes: Transforming education and career pathways to help broaden participation in science and engineering.
- 8) Quantum Leap: Exploiting quantum mechanics to observe, manipulate, and control the behavior of particles and energy at atomic and subatomic scales.
- 9) Understanding the Rules of Life: Elucidating and harnessing the sets of rules that predict an organism's observable characteristics.
- 10) Windows on the Universe: Using powerful new syntheses of observational approaches to provide unique insights into the nature and behavior of matter and energy.

More details are available online https://www.nsf.gov/news/special_reports/big_ideas/.