

Minutes of the Control Systems Society Board of Governors Meeting

3 June 2003, Denver, Colorado, U.S.A.

Call to Order and Approval of Agenda

C. Schrader called the meeting of the Control Systems Society (CSS) Board of Governors (BoG) to order at 1:00 P.M. on 3 June 2003, then asked the attendees to introduce themselves. The following members of the BoG were in attendance: B. Barmish, J.D. Birdwell, L. Bushnell, C. Cassandras, D. Castañon, T. Djaferis, J. Farrell, S. Hara, K. Kozlowski, M. Krstic, F. Lamnabhi-Lagarrigue, W. Lin, P. Misra, L. Pao, A. Perdon, K. Rudie, T. Samad, D. Schoenwald, C. Schrader, L. Shaw, R. Tempo, M. E. Valcher, A. Varga, B. Wittenmark, J. Zhu. Additionally, the following visitors attended the meeting: W.B. Gong, M. Shor, M. Spong, A. Tits and S. Yurkovich.

Modifications/additions to the agenda were noted, and the agenda was approved by unanimous consent. Next, the minutes of the BoG meeting of 9 December 2002 were approved by unanimous consent.

Action Items

Election of Officers for 2004

L. Shaw, Chair of the Nominating Committee, presented his report to the BoG. In addition to Shaw, the Nominating Committee members for 2003 are C. Schrader, J. D. Birdwell, T. Başar, and D. Atherton. The candidates for BoG election are Andrzej Banaszuk, John Bay, Xiren Cao, Krzysztof Kozlowski, David A. Schoenwald, Maria Elena Valcher, Andras Varga, Yutaka Yamamoto, and one petition nominee, Bijoy K. Gosh [Ed. Bay, Cao, Gosh, Schoenwald, Valcher and Yamamoto were elected]. Shaw thanked the Nominating Committee for their dedicated work.

Next, Shaw conducted the election of CSS officers for 2004. The following candidates nominated by the Nominating Committee were approved by the BoG: President-Elect, M. Spong; Vice President for Conference Activities, Theodore E. Djaferis; Vice President for Financial Activities, David Castañon; Vice President for Member Activities, Richard Middleton; Vice President for Publication Activities, John Baillieul; and Vice President for Technical Activities, Miroslav Krstic.

Editorial Appointments for the Transactions on Automatic Control (TAC) for 2004

Isidori presented the *TAC* AE nominees, which were previously approved by the Executive Committee. The BoG unanimously approved the following nominees: Jordan Berg,

Guanrong (Ron) Chen, Shuzhi Sam Ge, Joao Hespanha, Edmond Jonckheere, Mayuresh Kothare, Lalo Magni, Dragan Nesić, Mario Rotea, and Felisa Vázquez-Abad.

Editorial Appointments for the Transactions on Control Systems Technology (TCST)

Isidori presented the TCST AE nominees, which were also previously approved by the Executive Committee. The BoG unanimously approved the following nominees (to start July 2003): Scott Erwin, Bram de Jager, Pieter Mosterman, Srinivas Palanki, and Steven Weibel. Isidori presented the nominee for the Editor-in-Chief of the *CSM*, Frank Doyle, and discussed his biography. The BoG unanimously approved Doyle for this position, starting in January 2004.

Editorial Appointments for the Control Systems Magazine (CSM)

Isidori presented one nominee for AE of the *CSM*, Carl Knospe. The BoG approved him unanimously.

Editorial Appointments for the Conference Editorial Board (CEB)

Tempo presented the AE nominees for the CEB, which the Executive Committee had previously reviewed and approved. Schrader announced that several years ago, the BoG charged the Executive Committee with the task of approving each CEB nominee in advance. The Executive Committee has reviewed each nominee carefully. Birdwell stated that there are now 130 AEs in the CEB. The BoG is a good source to provide nominations. Tempo encouraged the BoG to send their list of nominees for the CEB to D. Lawrence (Chair, CEB). The BoG unanimously approved the following AEs: Gianni Bianchini, Zhengtao Ding, Majeed Hayat, Nickie Menemenlis, Markos Papageorgiou, Chunjiang Qian, Bahram Shafai, and Zidong Wang.

Technical Committee Chair Appointments

Krstic announced that T. Parisini was stepping down as the Chair of the Technical Committee on Intelligent Control. The BoG unanimously approved Marios Polycarpou as the new Chair, starting immediately. The Technical Committee is one of the most active within the CSS. Krstic also announced the formation of a new Technical Committee on Distributed Parameter Systems. The members in this group have already organized 14 Invited Sessions at various conferences. The BoG approved Michael Demetriou as the first Chair, starting immediately.

Liaison and Representative Appointments

Krstic presented the nominee, Jennie Si, for the Technical Liaison to the IEEE Neural Network Society. This Liaison is a member of the Neural Network Society's BoG. Misra asked what Liaisons do. Schrader said that they attend meetings, ask questions and represent the CSS. In the past, the Liaison has sent the BoG reports. Spong asked if the CSS has Liaisons with all the IEEE societies that we should have. Schrader said that in the creation of the Neural Network Society, the CSS has one BoG seat. She was open to investigating other societies for potential Liaisons. The BoG unanimously approved Si to this position. Krstic also presented the nominee, Bassam Bamieh, for the position of Liaison to the IEEE Nanotechnology Council. The BoG unanimously approved his appointment.

Senior Membership Initiative

At the May 2002 BoG meeting, Djaferis proposed that each BoG member select five or more eligible members from a provided list for nomination to IEEE Senior Membership status. More than 100 members were chosen for nomination and 52 were approved by November 2002. We were the second ranked society with successful nominees. The process for nominating a member was easy due to an efficient web site set up by Djaferis. Djaferis asked the BoG to continue this program for 2003, with the deadline of 1 November 2003. Shaw asked what the procedure was for nominating a member. Djaferis said the nominator sends email to the nominee, who in turn provides two reference names. The nominee then coordinates the forms that need to be sent to the IEEE. Schrader added that the nominees were grateful to receive such recognition from the BoG. The BoG unanimously approved this motion.

2006 CDC Program Chair

Tempo presented the nominee for the 2006 CDC Program Chair, Richard Middleton. The General Chair is Pradeep Misra. The BoG unanimously approved Middleton for this position.

Guidelines for Selecting General Chairs and Program Chairs

Tempo presented a motion to approve the following guidelines for selecting General and Program Chairs. Candidates proposed for General or Program Chair of a CSS sponsored conference should have participated sufficiently in other CSS activities for ExCom and BoG to assess their commitment and judgment, and for the candidates to demonstrate the high standards generally met by CSS volunteers. The candidate should have demonstrated the ability and willingness to do whatever is necessary to ensure success, tenacity and care for details, and the ability to judge

and enforce technical excellence. In particular, the following traits are desirable:

- A candidate for General Chair should (1) have been Program Chair of a comparable size CSS Sponsored Conference; (2) be willing to solicit and evaluate multiple hotel/conference center proposals in different cities as well as in each city; and (3) have experience in responsibly tracking and controlling income and expenses.
- A candidate for Program Chair (1) must have served on a Program Committee of a comparable size CSS Sponsored Conference; (2) have been Program Vice-Chair or Publication Chair of a comparable size CSS Sponsored Conference; (3) possess excellent research capabilities needed to organize a conference of high technical quality and to supervise the paper selection; and (4) may have editorial experience for CSS-IEEE journals and experience regarding organization of other non-CSS-IEEE conferences.

There was much discussion on these suggested guidelines from the BoG. Samad asked what weight these guidelines would have. Tempo said that these guidelines were to help facilitate the process of selecting General and Program Chairs and that they were not obstacles. Birdwell said that the guidelines codify a practice that is not always observed. Varga said it is difficult to find a Program Chair. He suggested that the required experience be broadened to include international conference committee experience. Tempo said that the guidelines were to teach members within the CSS, thus increasing the quality of our conferences. Varga commented that the wording needs to be more precise. Varga asked what would happen to someone who already was a GC before for ISIC, CACSD or IFAC. Schrader said the Executive Committee discussed these guidelines as applied to the ISIC and CACSD and decided they must be more flexible for these conferences. Tempo clarified that these were guidelines. The BoG voted unanimously to approve this motion.

Bylaw Change

Shaw presented a motion, which was unanimously approved by the BoG, to modify the CSS Bylaws as follows:

Article I. Elections; Section 3. Nominations. On or before April 1, the Nominating Committee shall submit to the Secretary-Administrator of the Society *names of willing candidates for elected positions on the Board of Governors that must be filled on January 1 of the following year. The number of Committee nominees plus those nominated by petition should total at least two more than the number of elected positions that must be filled.* In accordance with IEEE Bylaws the duties of the Nominating Committee shall also include the submission of nominations for the office of Division Director to the IEEE, and the annual solicitation of names of potential candidates to be considered by the IEEE for service on IEEE Committees and Boards.

Activity Reports

Report of the President

Schrader summarized her written President's Report.

State of the Society

Much of the February TAB meeting discussion involved the financial situation. The IEEE continues to charge societies directly for services used and indirectly for infrastructure costs. That means costs have been shifted down from IEEE to the societies. A reduction in infrastructure costs is proposed, but how much will be actually realized remains to be seen. The society needs to seriously address how to increase revenues as well as decrease expenses, yet provide member benefits. In particular, we need to examine our thinking about conferences as revenue generators and to discuss other ways of packaging, promoting, or creating intellectual property. The publications business keeps changing and the notion that people will join the CSS for access to our publications may no longer hold. Many already have direct access to IEEE Xplore through their employers. What then, is the benefit to joining the CSS? This is an important question to contemplate and a critical answer to articulate.

CSS Related TAB Actions

There is also some overlap of proposed new journals from the Systems, Man & Cybernetics Society and the Robotics & Automation Society.

Systems and Control Electronic Library

A task force has been convened to investigate formation of a systems and control electronic library. This is a cooperative venture involving several other societies that will include articles pulled from various publications based on subject matter.

Membership

Over 90% of the IEEE societies suffered a decrease in membership this past year – the CSS declined 8% from 2002 to 2003 and has a current membership (April 2003) of 8,436. Additionally, a profile of the age distribution of IEEE members indicates that the average age of IEEE members is increasing.

There was much discussion amongst the BoG. Yurkovich will be chairing the IEEE Periodical Review Committee for approving the creation/splitting of new journals at the June Board series meetings. Schrader said the Executive Committee would be discussing this at their next meeting and will share their opinions with the BoG. Yurkovich said he needed the CSS input by June 18th. Misra said that the BoG should be aware of the issues. Spong asked what the financial incentive was to spawn new journals. Yurkovich said that the societies would then get a share of the journal pool revenues and more from the IEL profit. Rudie asked when the BoG could discuss journal proliferation. Yurkovich said the

Computer Science Society has 11 journals and is proposing two new ones in June 2003. Birdwell said these two new journals are in “hot” areas and will give a technical edge to the IEEE.

Barmish asked if the 8% decrease in membership is a trend. Schrader said this is an IEEE trend and the IEEE is looking into this. Spong asked if the decrease in membership is due to retirements. Djaferis said it is due to a combination of several factors. The student membership is decreasing; they receive publication material through their university’s libraries. Perdon said that the libraries pay the IEEE for the IEL. Misra said that the electronic access is tracked and that the CSS gets part of the profit. Schrader said that the IEEE calculates the profit per society based on the number of user hits. Cassandras added that the *Transactions on Automatic Control* was ranked eleventh in the IEL. Valcher said that in joining the IEEE only (and not the CSS), members get the conference discount and the Xplore publications. Misra said that the CSS conferences only attract about 1000 attendees. This is a small fraction of the total membership. Djaferis asked if we care about the numbers. If we had zero members, then there would be a problem. He was not particularly worried by the trend. Other indicators are pointing upwards. Gong mentioned that the career potentials for young members are not as good as before. Kozlowski suggested that to increase the student membership in Eastern European countries, the IEEE should give them the IEL and create new Chapters. The Poland Chapter is very active. The problem is that there is no money in these countries. Lin seconded that there should be more promotion in and discount for these countries. Kozlowski said that there was a 15% increase in membership in these countries. Valcher said that there is a problem with the fees. Members pay with their own money. She asked if there was a way that CSS membership could be joined to the conference fees, e.g., 10% of the conference registration fee would be for IEEE and CSS memberships.

Report of the President-Elect

Birdwell was tasked with updating the CSS’s Long Range Planning (LRP) document, last updated by Yurkovich in 1998. This document, updated every five years, gives strategic planning information for the society. The complete document is available by request. The Executive Summary is as follows. The Control Systems Society, and the IEEE in general, is at a critical point in its history, and this analysis of the long-term plan is timely. Traditional revenue sources (non-member subscriptions, conferences, and membership dues) are threatened, and the costs of operation have increased substantially, due in large part to the absence of any significant investment income (and a decline in investment values) and cost associated with the rapidly evolving technologies of publications. The most important and immediate short-term goals are associated with cost control and protection of revenue: management of conferences. Several specific recommendations are made in this report that, if implemented, should provide timely and accurate

financial projections for sponsored conferences. This is not just a requirement that is imposed by the society; the IEEE has stated that it will require accurate periodic predictions of conference net income in the near future. At present, our society cannot meet this requirement, and fines will be levied against societies that do not meet forecast conference projections. In the short- to medium-term, our governing board must ask why our society is attractive to its membership, and find methods to make membership more attractive. In essence, this means the society must offer services to its membership that members find worth the cost. Historically, this has been access to the society's intellectual property embodied in its conferences and publications. With employers providing many members access to all IEEE publications via the Internet, it is no longer necessary, or desirable, for these members to maintain personal libraries of hardcopy issues of the transactions and conference proceedings. Membership in the society has decreased by 8% over the last year, indicating that some members are deciding that the cost of membership is not justified. If this trend continues, the long-term viability of the society will be threatened. The Control Systems Society is financially sound at present, although it, as with most other IEEE entities, incurred significant losses over the past two years. Members should take great pride in the quality of the society's publications, which include the premiere journals in the field. While the society must act quickly to better regulate its financial operations, this must not be done at the expense of quality. The Society has maintained very high standards in both its conferences and publications throughout its life, and these high standards should be the precepts by which all other society activities are judged.

The BoG discussed the new IEEE charge for non-conforming pdf files from journals and conferences, and the new \$200 fee for CSS technical co-sponsorship of conferences.

Schrader created a new ad hoc committee to look into virtual communities and how to attract new members. Two members on the committee are Birdwell and Spong. Birdwell asked the BoG to look at the IEE web site. Varga said that the CACSD Technical Committee uses 3 - 4 virtual communities.

Birdwell also presented a motion, passed by the BoG, to adopt the following recommendations regarding the operation of sponsored conferences:

- Increase assistance to General Chairs regarding contracts, financial estimates, and preliminary arrangements.
- Select General Chairs and Program Chairs with relevant experience and demonstrated ability to successfully manage conference operations.
- Require competitive evaluation by the General Chair of multiple cities (across a region) and multiple conference sites before selection of venue.
- Evaluate whether one registration should be required for each accepted paper, or whether a submission fee should be imposed.

- Require review and approval of all conference contracts over \$20k and budgets by VP/Finance prior to acceptance by society and submission to IEEE HQ.
- Require accurate and realistic conference budgets that return a minimum percentage of gross receipts to the society. It is recommended that the Society require a minimum budgeted financial return to the Society of 20% of gross receipts.
- Require financial reports by conference finance chair and general chair to VP/Finance: 6 months before and 3 months after the date of the conference.
- Require pre-approval of significant (greater than 10% per category) deviations in anticipated expenditures and receipts by VP/Finance.

There was much discussion on this motion. Djaferis asked about the implementation of the first item. We already have difficulty attracting General Chairs due to the large work load. Birdwell said that with the current finances, it is not feasible to have a conference planning office within the CSS. It is extremely important to track hotel and other expenses in real time during a conference. Djaferis suggested that we hire someone partime to handle this task. Schrader mentioned that Yurkovich is the Chair of the Conference Administration Committee and provides help to the General Chairs. Yurkovich said he brought up this idea three years ago. Perdon said this must be done professionally. Misra said that conference contract companies get paid from the hotel, not from the conference. Gong suggested that we go to the same hotel every year (e.g., Orlando). The SPIE conferences are held in the same location every year and they benefit from the long term contracts. Misra said that we need a conference management office. It is impossible to pass the information along from GC to GC. Spong said that IEEE has such a service for a charge. Yurkovich suggested expanding the roll of the standing committee on Conference Administration to include the past GCs.

Vice President, Financial Activities

Castañon presented the 2003 budget status. Pessimistic predictions give a \$169k deficit for 2003. Spong asked what the IEEE charge would be at the end of 2003. Castañon said it would increase 3% per year. Castañon said he would be giving quarterly updates. There is a chance to increase revenues. He proposed to liquidate the DVDs at a deep discount. All of the information on the DVDs is already in Xplore. The BoG approved this motion.

The 2004 budget is in better shape, thanks to the new fee structure approved by BoG that align subscription costs closer to actual production costs. In principle, the increases project to a balanced budget with a continuing but modest decrease in membership and journal subscriptions. A draft of the 2004 budget has been submitted for review to IEEE. If IEEE's worst predictions for 2004 membership occur, then we will again incur a deficit for 2004. Our challenge will be

to develop programs to attract and retain our members, while potentially increasing revenues.

Report of the Vice President, Member Activities

Djaferis gave a few highlights from his report:

- CDC02 CD-ROM Proceedings were mailed to IEEECSS Chapter Chairs and Active Control Groups, (97 were sent).
- An IEEE Control Systems Society Membership Survey will be distributed in the summer.
- The Disadvantaged Countries Travel Support Program approved 15 awards for participants to travel to CCA03 in Istanbul, Turkey.
- The Public Information Committee is requesting one PowerPoint slide summaries of research/educational programs of interest to be posted on a web site. The Technical Committees are encouraged to submit summaries.
- The Distinguished Lecturer Program is now rotating on 3-year terms.

Report of the Vice President, Technical Activities

Krstic summarized his report to the BoG. The TAB currently has 16 Technical Committees. Two of the previous TCs (Power Systems and Control Electronics) have been reconstituted into one new committee (Energy Conversion Systems). One new committee has been introduced (Distributed Parameter Systems). The TC for Real Time Control, Computing & Signal Processing is being discontinued with the retirement of its last chair, E. Arzen. Strong consideration was given to continuing this committee, along with extensive effort to identify an active, visible candidate for a chair of this TC. The result of this exercise was the conclusion that this area currently gravitates towards other societies within IEEE, while those researchers that do gravitate towards CSS (measured by their attendance to our conferences like CDC and ACC) are already adequately represented in our TCs for Hybrid Systems, Networks and Communication Systems, Discrete Event Systems, etc.

The plan of TAB efforts for 2003 includes:

- Re-energize individual Technical Committees, especially in currently popular areas of research like Biosystems and Networks/Communications.
- Work with Automotive and Energy Systems TCs to ensure the fuel cell activity is covered by either or both committees.
- Consider establishing a TC on Finance Systems and related stochastic control/estimation subjects.
- Work with the Aerospace Control TC to ensure the new activities on control and coordination of UAVs are properly covered.
- Strengthen the (informal) interaction of TCs with CSS journals and conferences.

- The development of regional and (graduate) student-oriented symposia.

Report of the Vice President, Conference Activities

Tempo announced that in the last six months, major successful efforts have been made by Huibert Kwakernaak and Pradeep Misra regarding the implementation of the new submission system PaperPlaza. Tempo said that there would be a new ad hoc committee formed to look into pre-registration fees. The CSS will now charge \$200 for technical co-sponsorship of conferences. Tempo thanked all of the GCs and PCs for their reports. He specifically thanked Umit Ozguner for his excellent job as the GC for the CDC 2002 in Las Vegas, Nevada, which had 916 registrants, a \$60k surplus and a successful high school workshop. Tempo also thanked Steve Yurkovich, who travels and makes recommendations to the GCs. Tempo then invited GCs who were present to say a few words.

2003 CDC

Yurkovich said that the hotel in Maui, Hawaii will be a fabulous venue. The General Chair, Frank Lewis, is on track with everything.

2004 CDC

Gong (PC) said he has known Christos Cassandras (GC) for over 20 years and that they work well together. He thanked the BoG and said these are "exciting times." The conference, to be held in The Bahamas, will be fun. The program will be exciting and dynamic. There is a large poster at the registration desk. The Program Committee includes several past and future Program Chairs.

2004 CCA/CACSD/ISIC

S. Hara (GC) has printed the Call for Papers, which was included in the ACC 2003 registration packet. The budget is almost finalized. The web site opened in May.

2005 CDC-ECC

Yurkovich (General Co-Chair) said that the venue was not chosen yet, but there is no reason to panic. He will go to help out E. Camacho later in June. The Operating Committee is not appointed yet. He predicted that the CSS would not make much money on this conference. There is no budget yet. Tempo (Program Chair) said that he and the two Program Vice-Chairs have already started working together. Yurkovich said he was not worried about the technical side.

2006 CDC

Misra (GC) is going to start site visits this autumn.

Report of the Vice President, Publication Activities

Samad highlighted his CSM report. The transition to Dennis Bernstein as the new Editor-in-Chief is complete. Schrader thanked Samad for his work with the CSM. She appreciated his style and said that he has moved the society forward.

Misra said the E-Letter is on track and that he is filtering the submissions. The CSS web site is in good shape with conference registration information links (PaperPlaza).

Report of the Secretary-Administrator

Bushnell noted that the next BoG meeting will be held on Monday, 8 December 2003, at 1:00 P.M. in Maui, Hawaii at the 2003 CDC.

New Business

Schrader presented three questions to the BoG:

- What are some of the benefits you enjoy as a current CSS member?
- What additional benefits might we offer for those joining the CSS?
- In particular, how could we attract students and young professionals to our field and society?

Schrader said that students were making choices on their values vs. their skills these days. She suggested that the CSS collect names of graduating students and entice them to join the CSS, put the conference proceedings on Xplore, create an ad hoc committee to look into virtual communities, post jobs on the E-Letter, make the workshop information available after conferences, and create tools that are accessible at lower levels. She then invited others to state their comments/suggestions.

Gong said there are fundamental issues that CSS needs to confront. The society has a glorious history, which may become a burden. Since 1998, Gong has been the Chair for the Technical Committee on Networks and Communication Systems. They have organized good workshops and special issues. Other societies liked what they were doing. Most of the active members have switched to attend the InfoCom conference. They are breaking into the network communication area, where there are more grants, better jobs, and more media coverage. In the CSS, everything is about control. We lost neural networks and are losing other topics. We need to redefine control.

Spong proposed to have a new column in the CSM on "control in disguise" to look at different areas. For example, we could get articles that are in USA Today, such as the roll-over stability problem for SUVs, or print articles on television shows, such as the RoboCup show with Alan Alda and Raff D'Andrea. Samad will follow up on this with Bernstein.

Birdwell said we need to seed the information on the CSS web site first, and then the media will find it. We have not done a good job publicizing. Samad said that new topics include chassis control and system biology, which appeal to a broader audience. Schoenwald added the areas of economics, networks and simulation modeling. There are lots of control problems in these areas, which do not have large tool sets.

Tempo noted that at the 2003 CDC, Başar will be giving a plenary talk on congestion control.

Gong asked if CSS could be more aggressive. For example, in the *Transactions*, we could invite outside experts to write papers, e.g., bio-MEMS. Misra said that we are part of many systems: automotive systems, aerospace systems. We need to advertise which part involves control. We need to go out to those communities to advertise. We also need to write articles in other society's journals and magazines. Farrell noted that students who go into the wireless area have cell phones and palm pilots. They do not have a control system in their hand.

Wittenmark asked when the last CSS article was published in the *IEEE Spectrum*. Tempo noted that Astrom gave a plenary talk at the 2002 IFAC on "Control, the Hidden Technology." Barmish suggested having contests with prizes involving undergraduate students using Matlab, for example. Spong said that contests already exist, such as aerobots.

Spong said that the CSS works well as a team. It is a great community with which to discuss ideas. Krstic said he was not bothered by the "boutique" community especially since it attracts the best students. Kozlowski noted that there already exists lots of theory. To attract students, he focuses on the applications of the theory. For example, in Poland, there is a robot soccer competition, which draws interest from college and secondary schools. The *Transactions* is fairly advanced for students. Real applications give good experience for employment.

Schrader asked everyone to email her ideas on these points. She appreciated their time brainstorming these questions.

Adjournment

Schrader thanked the members of the Board of Governors and visitors for attending the meeting. The meeting was adjourned some time around 6:00 P.M.

*IEEE CSS Secretary-Administrator: Linda G. Bushnell,
September 5, 2003*