

IEEE Information Theory Society Board of Governors Meeting

Location: Palmer House Hilton, Chicago, IL, USA

Date: 1 Oct 2016

Time: The meeting convened at 9:15am CDT (GMT-5); the meeting adjourned 2:15 CDT.

Meeting Chair: Alon Orlitsky

Minutes taken by: Stark Draper

Meeting Attendees: Jeff Andrews, Matthieu Bloch, Stark Draper, Michelle Effros, Abbas El Gamal*, Elza Erkip, Stephen Hanly*, Tracey Ho*, Frank Kschischang, Matt LaFleur#, Michael Langberg*, Pierre Moulin, David Neuhoff*, Krishna Narayanan, Alon Orlitsky, Anand Sarwate#, Emina Soljanin, Daniela Tuninetti, Rüdiger Urbanke, Aylin Yener, Wei Yu. (Remote attendees denoted by *, non-voting attendees by #.)

The IEEE Information Theory Society (ITSoc) President Alon Orlitsky called the meeting to order at 9:15am. Alon first summarized motions that were decided by email voting since the last Board of Governors (BoG) meeting:

1. The minutes of the July 2016 BoG meeting were approved.
2. It was decided that ISIT 2020 would be held in Los Angeles, California.
3. It was decided that ISIT 2021 would be held in Melbourne, Australia.
4. Rüdiger Urbanke was elected to serve as IEEE ITSoc President in 2017.
5. Elza Erkip was elected to serve as IEEE ITSoc First Vice-President in 2017.
6. Emina Soljanin was elected to serve as IEEE ITSoc Second Vice-President in 2017.
7. A motion was passed to send a message to the ITSoc membership regarding the proposed changes to the IEEE Constitution that will be voted on in the fall 2016 IEEE election, an election for which voting will close on 3 October 2016.

Alon next reviewed the meeting agenda.

Motion: A motion was made by Emina Soljanin to approve the agenda. The motion was seconded by Daniela Tuninetti. The motion was passed unanimously.

- 1) **President's Report:** Alon presented the President's report. Alon reported to the BoG that the state of society finances is solid. There are significant reserves. The 2016 ISIT was successful. There were 888 participants and 620 talks. Possibly this was the largest ISIT ever held outside the US. Current financial estimates for ISIT'16 (the books have yet to close) show 440K Euros income and a surplus of roughly 34K Euros. To date in 2016 about 30 Shannon-tennials have been held with roughly 10 more scheduled by the end of the year. The BoG committed \$55K (USD) to the Centennial. A balance remains, the use of which will be discussed later in this meeting. Alon thanked Shannon Centennial Committee Chairs Christina Frangouli and Rüdiger Urbanke and Committee Members Michelle Effros, Lav Varshney, Sergio Verdú for their efforts. Alon updated the BoG on the proposed IEEE amendment discussed in the last meeting. Over 40 of 50 technical societies and several past IEEE presidents have objected. Of the remaining ten societies one is supportive. Voting will close on 3 October. Alon previewed the updates that the BoG will receive in this meeting. Significant time has been set aside for forward-looking discussions. These include rethinking the organization of the Membership Committee, initiatives to found new journals, discussion of the Information Theory Paper Award, and other new initiatives for 2017. Alon reported the tentative scheduling and locations of BoG meetings in 2017: 12 February in San Diego (in connection with ITA), 25 June in Aachen (in conjunction with ISIT), and 30

September in Chicago (in conjunction with Allerton). Alon concluded his reports by thanking volunteers who are concluding their terms of service. He thanked retiring BoG members Andrew Barron, Tracey Ho, Nick Laneman, Stephan Hanly, and Alex Vardy. He thanked retiring subcommittee chairs Osvaldo Simeone (Outreach) and Aylin Yener (Schools). He thanked retiring committee chair Nick Laneman (Massey), retiring Transactions Editor-in-Chief (EiC) Frank Kschischang, and retiring Senior Past President Abbas El Gamal. In conclusion, Alon welcomed the incoming Chair of the External Nominations Committee, David Neuhoff, and the incoming Second Vice President, Emina Soljanin.

- 2) **Treasurer's Report:** Treasurer Daniela Tuninetti presented her report on the state of the Society's finances. Daniela reviewed the budget for 2016 and the final forecast for 2017.

The budget for 2016 had a target surplus of \$61K USD. However, the second-quarter forecast for 2016 forecasts a lower surplus due to reduced revenue from publications. Although there has been a decline in revenue from IEEE Xplore, in parallel, there has been a faster decline in publication expenses, due to lower Transactions page count and thus production costs incurred. The actual 2016 surplus will become more clear once the third-quarter 2016 forecast and actual surplus numbers from ISIT 2016 and ITW 2016 become available.

Given the 2015 operational surplus, the Society had up to \$122K USD for 2016 new initiatives (according to the "50% rule"), of which the BoG scheduled \$110K USD to spend on Shannon Centennial Events. The Shannon Centennial Committee has at present committed \$55K USD and forecasts that it will not spend the full \$110K USD amount.

Regarding the 2017 budget, the IEEE has almost approved the Society's proposed budget. The target surplus for 2017 is set to \$11K USD. IEEE has also approved for inclusion in the 2017 budget a new initiative (according to IEEE's "3% rule") an expense of \$105K USD to continue the set of broad outreach activities started with the Shannon Centennial Events in 2016.

Daniela raised a long-running BoG discussion of getting to a zero surplus, particularly in the context of funding new initiatives. Daniel recapped for the BoG the two IEEE rules that apply to funding new initiatives: the "50% Rule" and the "3% Rule". The "50% Rule" is as follows: if a society has a surplus of \$X in a particular year it can spend \$X/2 on new initiatives in the following year. The "3% Rule" is as follows: a society can spend up to 3% of its reserves in any given year on new initiatives. However, spending under the 3% Rule must first be approved by the IEEE and must be included in the budget. So, for instance, under the 3% Rule the IEEE has allowed the ITSoc to spend 2.5% of its reserves on new initiatives in 2017. This amounts to roughly \$117k. Initiatives that this funding may be spent on will be discussed later in the meeting.

A discussion of the sources of ITSoc revenue followed. In contrast to most IEEE societies that rely on meetings to generate income, most ITSoc's revenues come from publications. As Daniela reported, income from publications, measured by clicks on IEEE Xplore, is decreasing. If this trend continues it may be a topic the BoG will have to consider.

- 3) **Transactions:** Transactions EiC Frank Kschischang presented a list of candidates to serve as associate editors.

Motion: Frank made a motion to approve the list. The motion was seconded by Michelle Effros. The list was approved unanimously.

Frank next presented a proposal for a special issue of the Transactions to be dedicated to the memory of Solomon Golomb. The title would be "Shift Register Sequence in Memory of

Solomon W. Golomb”. The proposers, who would serve as the guest editors are Guang Gong, Tor Helleseth, and Vijay Kumar. This would be a 13th issue of the Transaction, to appear in 2018. There was a discussion of special issues generally, which have been curtailed of late, the pros and cons of special issues, as well as the proposed scope and logistics of the issue. Frank will communicate the discussion points back to the proposers.

- 4) **Nominations and Appointments (N&A) Committee:** As his first order of business N&A Committee Chair Abbas El Gamal nominated Alexander Barg to serve as the next Executive Editor of the Transactions. The following motion was recommended by the N&A Committee and moved by Committee Chair Abbas El Gamal:

Motion: “To appoint Alexander Barg as Executive Editor of the Transactions for the term extending from 1 January 2017 to 30 June 2018.” The motion passed unanimously.

Abbas reviewed the new appointments to various committees: Fellows, Cover, Shannon, Wyner. Almost all committees are now fully staffed.

Abbas then discussed a proposal to move the Cover, Shannon, and Wyner appointment committees to the task list of the Senior Past President to deal with at the end of their term. This has been the practice for the past two years. This was for information only.

- 5) **Conference Committee:** Elza Erkip presented the Conference Committee report on behalf of Committee Chair Emanuele Viterbo. Elza first reviewed the ISITs from 2016-2021. In Barcelona, the budget is not quite closed, but the current estimated surplus is 34K Euros. Detailed budgets for ISITs 2017-2019 were not available for the BoG to review at the meetings. Budget details will be shared with the BoG with approvals to be conducted online:

(Discussion and online motion) ISIT 2017 in Aachen: 800 participants are expected and the base registration (IEEE + ITSoc membership + early) will be 620 Euros.

(Discussion and online motion) ISIT 2018 in Vail: 850 participants are expected and the base registration (IEEE + ITSoc membership + early) will be \$750 USD.

(Discussion and online motion) ISIT 2019 in Paris: 800 participants are expected and the base registration (IEEE + ITSoc membership + early) will be 770 Euros.

The BoG inquired whether Paris would have a low-cost student housing option, e.g., in dorms. The BoG also requested that Aachen organizers be asked to ensure that there is a student housing option (if one has not already been arranged). There was general consensus that, except in exceptional circumstances, any future ISIT should provide a dormitory housing option for students.

Organizers are targeting conference surpluses of approximately 10%. This engendered a discussion of the use of the surplus to fund other ongoing activities of the society such as long-term running schools.

The books of ITW Cambridge are currently closing, with a surplus of 5% expected. ITW Taiwan is on-track for 2017. Interest has been expressed in organizing an ITW for 2018, but discussions are at a very early stage. There appears to be a slow down in ITW proposals, and a discussion ensued of how the Conference Committee brings in ITW proposals. It may be the slowdown is negatively correlated with the arrival rate of ISIT proposals. It was also pointed out that ITWs are widely distributed geographically. Proposals of ITWs to be held closer to geographic clusters of ITSoc members would be welcome. The following motion was recommended by the Conference Committee, moved by Elza Erkip:

Motion: “To approve technical co-sponsorship of the 15th Int. Symp. on Modeling and Optimization in Mobile, Ad Hoc, and Wireless Networks (WiOpt 2017), to be held in Paris, France.” The motion passed unanimously.

In conclusion, Elza reviewed Committee recommendations intended to reduce conference waste: reduced use of USB sticks to distribute proceedings (which, e.g., at ISIT’16 and ITW’16 were both made available online for the duration of the conference), conference bags, paper programs, and various printouts. This discussion engendered a wider discussion of standardization among ITSoc conferences.

- 6) **Membership Committee:** Membership Committee Chair Elza Erkip reviewed the makeup of the Committee and its duties, which includes selection of ITSoc distinguished lecturers. Elza reviewed proposed changes to the Distinguished Lecturer program to increase activity, to encourage chapters to contact lecturers, to encourage lecturers to help identify lecturing opportunities, and to improve the nominations process.

Elza reviewed recent activities of the Student Subcommittee (e.g., meet the Shannon Lecturer at ISIT), the Outreach Subcommittee (e.g., ISIT round table mentoring event with 18 mentors and roughly 120 attendees), and the Women in Information Theory (WITHITS) Group (e.g., ‘Samoa Circle’ at ISIT and a lunch event at Allerton). The Outreach Subcommittee also runs the mentoring program and has been surveying current program participants for feedback.

- 7) **Online Committee:** Online Committee Chair Anand Sarwate reviewed the activities of the Committee. The main update is that the new website is active! Anand recently received a generic email from IEEE about complying with IEEE website standards (including branding and formatting). Anand will keep the BoG apprised of any future developments. The Committee’s next steps include: integration of social media, upgrading the way news and announcements are emailed, archiving and consolidation of content, solicitation of contributed content including research tutorials, teaching, and other materials. The committee would appreciate receiving press releases for each ITSoc award so that it could post these to the website.
- 8) **External Nominations Committee:** Incoming Committee Chair David Neuhoff reviewed the membership and mandate of the committee and its current efforts. Focusing on awards and medals for which ITSoc members have been awarded in the past, there are four principal awards with mid-January deadlines, and six IEEE medals that have mid-June deadlines. The committee is soliciting nominations for these awards. There was discussion surrounding which awards the committee should solicit for and how the nominations process works. Dave emphasized that the job of the committee is to identify a candidate along with someone who could serve as nominator. Dave also reviewed some improvements that have been made in how the committee tracks nominations and awards made, with the aim of aiding current and future committees.
- 9) **Newsletter:** Newsletter Editor Michael Langberg reviewed the goals, logistics, and typical content of the Newsletter. There are technical contributions, mostly of a survey nature, which come from ITSoc and sister societies. A student column has been a new addition this year. Going forward the table of contents of each edition of the Transactions will be printed, as well as of Foundations and Trends in Communications and Information Theory, and, if possible, Problems of Information Transmission. The budget impact of this addition was discussed. It was suggested that each title in the online version of the Newsletter should link directly to the corresponding PDF on Xplore. Going forward workshop and conference organizers, as well as organizers of other activities that receive ITSoc financial support, will

be required to submit reports to the Newsletter. Michael noted that the Newsletter's page count this year has been slightly higher than forecast. Therefore, the Newsletter may be slightly above budget. Michael also mentioned the passing of Solomon Golomb, who was a long-term contributor of puzzles to the Newsletter. A collection of his puzzles will be published over the next four issues. Michael is working with Alon, Daniela and Rudi to look into publishing all of Solomon Golomb's Newsletter puzzles as a stand-alone book.

- 10) **Shannon Documentary:** Writer and director of the Shannon documentary, Mark Levinson, called in to provide the BoG a status update. Mark talked about how exciting it is to bring to life a figure whose work has impacted us all, but who is not so well known. In the historical record there are no film interviews with Shannon, and there is very little footage of Shannon at all. On the other hand, transcripts exist of quite lengthy interviews. Mark characterized Shannon in these interviews as self-deprecating, sharp, playful, and funny. Mark's goal is to recreate what such an interview might have been like had Shannon conducted one on film. This "faux-interview" would anchor the film. Shannon's family has been supportive. His daughter sat down for a long interview and his son contributed as well. Mark's plan is to recreate the toy room in Shannon's house in Winchester, Massachusetts, a house that is still in the family. Mark has nearly finished scripting the faux-interview. He will circulate the script to a couple possible actors in next week. His goal is to shoot this central anchor of film by end of 2016. Following that, there will be documentary work. He is targeting to complete the film in late 2017. Mark's original target length was 50 minutes. This would have allowed the film to be shown in a one-hour television slot. However, the project is growing toward feature length, 70-80 minutes. The BoG asked Mark whether a feature length film could be edited to produce a short film also, of 15-20 minutes duration, for use in other venues.
- 11) **Pilot videos project:** Matthieu Bloch reported on a pilot project to produce educational videos. The initial objective is to create two videos showcasing successful applications of information theory: MIMO and network coding. The choice was made to focus initially on real-world technologies with the hope of engaging the general public. The target audience is a high school student, someone interested in technology but that doesn't (yet) have a deep technical background. Target venues include YouTube and social media outlets. Brit Cruise will be hired to create the first two videos. Brit Cruise has produced many videos for Khan Academy, including those on information theory. In contrast to the videos on information theory currently available Khan Academy, which focus on very basic topics, the content in question will highlight these more advanced applied topics. The budget for the initiative will derive from the balance of funds directed towards the Shannon Centennial. The current focus is the development of scripts. Matthieu encourages ITSoc members to volunteer to participate in this project.
- 12) **Online Instruction Initiative:** Suhas Diggavi reviewed for the BoG the goals of the Online Instructional Initiative. Currently a few committees are being arranged: steering (oversight), organizing (curate talks, maintain portal), finances (budgeting). A motion will be made later in the meeting to request \$10K USD to initiate the creation of invited and curated content. The goal is to create, videotape, archive, and post online, 10 expository lectures.
- 13) **Schools Subcommittee:** Schools Subcommittee Chair Aylin Yener presented her report. The 2016 NASIT was held at Duke University in June 2016, had 99 student attendees, 5 lecturers, and social activities. The Joint Telematics Group / IEEE ITSoc Summer School was held at the Indian Institute of Science, Bangalore, in June/July 2016 had 121 attendees. The Indian School consisted of three short courses, each of 8 hours length, spread over 5 days.

Aylin presented a proposal to hold the 2017 Latin American Week on Coding and Information in Brazil. This school will be three days long, will be held at University of Campinas (Unicamp), and will be held in (serial) conjunction with a three-day workshop. The School plus workshop are scheduled to run from 22 to 27 July, 2018. Expected attendance is 60 students, and speakers have mostly already been confirmed. Schools have been held in Brazil in the past, but have not been supported by ITSoc. The current hope is to hold a Latin American school every other year. While the request for funds is quite far in advance, at least in terms of the development of the ITSoc 2018 budget, the organizers are requesting ITSoc support early so it can serve as seed funding to attract other support. The BoG deferred discussion of the level of support till later in the meeting.

14) **Membership Committee Reorganization:** Elza Erkip discussed a possible reorganization of the Membership Committee. She summarized the Committee's duties: selection of the Chapter of the Year, appointment of distinguished lecturers, selection of the Padovani Awardee. The Committee has four subcommittees: (i) Schools, (ii) Student, (iii) Outreach, (iv) WITHITS. Between the Committee and the four subcommittees there are lots of volunteers. The first proposal is to move the Schools Subcommittee out of Membership, either to promote that subcommittee to committee level (due to its high level of activity) or to place it under the Conference Committee. The Committee and remaining subcommittees would then be reorganized to integrate all duties into a single structure. The Committee would continue to be headed by the Second Vice-President. Other members and their duties would include one liaison for chapters, two liaisons for WITHITS, two liaisons for student and outreach responsibilities, and two to three students and postdocs members. It was noted this is the only ITSoc committee on which students and postdocs can serve. Members' terms will be of two years' duration, and will be staggered. The exception will be the student and postdoc members whose terms will be of one year's duration. The Committee suggests to the BoG that it try out such a reorganization for one year and report back before formalizing into the bylaws. There was discussion of the roles and how the new committee structure would work, that a similar restructuring had been suggested in the past, and of the roles of the student and postdoc members. The responsibility for choosing the Padovani Lecturer might be shifted to the Schools Subcommittee. A decision on where the Schools Subcommittee would be placed in the organizational structure will be deferred until the proposed changes are tested for one year.

15) **New publications (JSTIIT & IT Magazine):** Jeff Andrews and Elza Erkip next picked up the discussions of new publications that they initiated at ISIT, respectively, of a special topics journal "Journal on Selected Topics in Information Theory" and of an "Information Theory Magazine".

Jeff first discussed the Transactions in the context of the journals published by sister societies. ITSoc is unusual in having only a single journal. The core proposal is to have a new special topics journal with four to six issues each year, with a sub-to-pub time of under one year, and with a two-fold focus including both hot topics in core information theory and cross-cutting topics. First steps would include establishing a prestigious meta-Editorial board, pro-actively seeking out the first ten special issues, ensuring that at least half of the first ten issues are cross-cutting, and establishment of a culture of quality-over-quantity. Jeff reviewed various benefits to the ITSoc: technical, logistical, and financial.

As Elza next outlined, the desire for an IT Magazine is driven by the question of how to reach out to the non information theory community. A magazine would provide the right venue for tutorial-style papers that could emphasize insights and potential uses of a line of research. It would blend traditional information theory areas with new ones. She noted that

the magazines of sister societies such as Signal Processing (SP) or Communications (Comm) are well cited. Furthermore, much of the content now delivered through the Newsletter — the President's column, conference reports, a list of upcoming conferences — could rather be delivered through a magazine.

There was a wide-ranging discussion of the examples of the SP and Comm magazines, the way they attract papers from industry, the way they standardize submission formats, the fact that the SP Society also has an electronic newsletter. The consensus was that all ITSoc publications need to maintain the example of extremely high quality publications that the Transactions sets. It was also discussed how a new publication could complement the Transactions, and if papers could be pushed from one to the other as appropriate. Finally, it was felt that the idea of a special topics journal being cross-cutting and fostering outreach to other communities should be very strongly emphasized from the get go, e.g., in the selection of those first ten issues. On the cautionary side, it was noted that ITSoc is about 1/6th or 1/10th the size of the SP and Comm Societies, and launching and maintaining one or two new publications would take significant effort. Finally, the idea of an IT Magazine was thought to have been raised some years back. The report generated at that point will be unearthed and its recommendations considered. An ad-hoc committee will be formed, headed by Jeff Andrews and Elza Erkip.

- 16) **Finances for new initiatives:** Daniela Tuninetti discussed some budgetary issues related to the pilot videos project and the online instructional initiative, discussed earlier in the meeting by Mathieu Bloch and Suhas Diggavi, respectively. Currently, the only upcoming new initiatives are the online instructional initiative and the Latin America school.

Motion: Suhas made, and Elza Erkip seconded, the following motion: "To allocate \$10K USD to the effort to start up the online education initiative." The motion passed unanimously.

The Schools Subcommittee recommended the following motion, moved by Committee Chair Aylin Yener:

Motion: "To approve IEEE ITSoc BoG supports the Latin American Week of Coding and Information at the amount of \$15K USD." The motion passed unanimously.

The first of the above motions will be funded under the 3% rule, and the latter under the 50% rule, for new initiatives.

- 17) **Paper Award Discussion:** Rüdiger Urbanke initiated a discussion of the IT Paper Award. This year, for the first time in decades, the Award was given to two unrelated papers. It had been observed by many that part of the bottleneck resulted from the fact that the window of eligibility for the Paper Award extends only two years from the year of publication. Two years does not allow much time for smoothing out the flow of top-notch papers. Furthermore, such a short window can also cause problems because two related papers can appear in distinct windows. Rudi proposed to lengthen the window from two to four years. Four years is not too long, but likely long enough to alleviate many issues. Rudi also mentioned the IEEE W.R.G. Baker Award. The Baker Award is currently scheduled to vanish as an IEEE-wide award. Several Societies are discussing the possibility of resurrecting it as a society-level award with a long time windows of eligibility (significantly longer than four years). The thought is that the (resurrected) Baker Award could be used to recognize papers of significance that have appeared in the past 15-20 years, the significance of which was not realized at the time of publication.

- 18) **Adjournment:** The meeting was adjourned at 2:15 CEST.