

APPROVED MINUTES

OF THE IEEE EMC SOCIETY BOARD OF DIRECTORS MEETING

**Hilton Hotel (July 21) and Convention Center (July 25)
New Orleans, LA
July 21 and 25, 2019**

MEMBERS PRESENT (24)

B. Archambeault
H. Benitez
T. Braxton
C. Bunting
R. Carlton
C. Chan
B. Davis
J. Drewniak
Y. Fukumoto
H. Garbe
E. Hare
K. Hatashita
S. Kaule
J. LaSalle
F. Leferink
D. Lewis
J. Norgard
J. O'Neil
D. Pissoort
V. Rajamani
M. Violette
G. Wiid
T. Wu
X. Ye

ABSENT (4)

A. Duffy
J. Fan
F. Sabath
C. Sartori

GUESTS (5)

A. Abunjaileh
G. Alcala
D. Heirman
J. Medler
J. Ramie

1.0 THE PRESIDENT’S OPENING REMARKS

President Bruce Archambeault called the meeting to order at 9:00 am on Sunday, July 21. A round of introductions was made. He asked each person present to identify their role on the Board (i.e. what activity they support). He reviewed Board meeting protocol, the IEEE code of ethics, the EMC Society Field of Interest and Strategic Plan Goals (see President’s Introductory Remarks). He reminded Board members of the material on the Board Forum site and asked that everyone remember to review this prior to the Board meetings (<http://ieee.emc-center.org/emcbod/login.aspx>). Bruce welcomed a special guest, the MTT Society President-elect, Alaa Abunjaileh.

2.0 CONSENT AGENDA MOTIONS

The meeting agenda was presented for review. (See Draft Agenda.) The consent agenda included the following motions:

- Approve July 21, 2019 Meeting Agenda – Archambeault
- Approve Secretary’s Report – April 2019 Austin, Texas Meeting Minutes – O’Neil
- Approval of Symposium Committee Certificates - Rajamani

The motion to approve the consent agenda was seconded and approved.

3.0 PAST PRESIDENT’S REPORT

Heyno Garbe presented the report for Immediate past President Frank Sabath. (See Immediate Past President’s Report.)

The nominations for Director-at-Large Candidates that closed on 31 May 2019 resulted in 12 candidates for the ballot as shown below:

Gabe Alcala	Lijun Jiang	Mike Violette
Mariya S. Antyufeyeva	Frank Leferink	Yan-Zhao Xie
Dipanjan Gope	Christian Schuster	Zhiping Yang
Don Heirman	Mark Steffka	Xiaoning Ye

Heyno moved to approve the list of 12 names for the BoD ballot for the term 2020-2022. The motion was seconded and approved.

Regarding the Constitution and Bylaws committee, Heyno discussed the motion to approve Sections 1 and 2 of the revised EMC-S Handbook. Section 1 contains basic information about the EMC-S. Next year Section 2 becomes important, as it defines responsibilities and qualifications of the Executive Committee (President-Elect and VPs). A motion was made to approve Sections 1 and 2 of the EMC-S Handbook. The motion was seconded. Vignesh moved to table the motion until the meeting on Thursday, July 25. The motion to table was seconded and approved.

4.0 PRESIDENT’S REPORT

President Bruce Archambeault presented his report. (See President’s Report.)

Henry Benitez discussed the size of the EMC-s Board of Directors and reducing the number of Directors. Heyno noted the size of the EMC-S Board versus the number of Board members in the IEEE AP Society. Alaa Abunjaileh, President-elect of the MTT Society, explained the size of the MTT Society Board of Directors and the number of their AdCom members.

Bruce showed a motion to modify Sections 3 and 4 of the EMC-S Bylaws to reduce the number of Board of Directors members. (See Motion Bylaws Section 3 and 4 Report.) It was moved and seconded to table the motion until the meeting on Thursday, July 25.

5.0 TREASURER'S REPORT

John LaSalle presented his report. (See Treasurer's Report.) He clarified the Board member travel reimbursement policy. As a reminder, only travel (plane or equivalent) and hotel are allowed. Board members must complete the Volunteer Travel Form and submit it to the President and the Treasurer at least one month before the Board meeting. IEEE has modified the due date for expense report processing. They will not accept an expense report after 60 days post travel. Regarding requests for reimbursement, IEEE is now using Concur to process expense reports, effective February 11, 2019. If you have questions on using Concur, please visit concurfeedback@ieee.org.

Regarding the 2019 EMC Society Operations Overview, the target budget is a positive \$12,700. There is no Initiative spending planned for 2019. As of the June report, the Society is currently at a positive \$154,800.

The report includes tracking information on symposium expenses and revenue as well as a review of the level of reserves. Since 2015, the net surplus of the symposiums and the Society reserves have considerably declined in value.

John noted IEEE Finance has selected NetSuite, a cloud-based web application, to ensure that processes are streamlined and that audit requirements are met across the IEEE Enterprise. NetSuite will be in place for Distinguished Lecturers starting on January 1, 2020.

6.0 STANDARDS SERVICES

Ed Hare, Vice-President for Standards, presented his report. (See Standards Report.) He noted leadership of the Standards Development and Education Committee (SDECom) includes Alistair Duffy as Chair, Ross Carlton as Vice-Chair, Henry Benitez as Secretary and Ed Hare as Liaison. The report included a list of the 21 current SDECom members.

SDECom will meet on Monday and Thursday of the symposium week. SDECom will continue to organize "Standards Week" at the annual EMC Symposium. Ross Carlton and Ed Hare will jointly lead the work needed to organize this. This will include workshops and submitted papers in a Standards Week track in the technical program in addition to holding Standards working group and committee meetings. They would like to add more demonstrations and experiments. Ideas include a demonstration of techniques used to find sparking noise sources and a demonstration of various cabling arrangements that can significantly increase conducted emissions from equipment.

Regarding long range planning, SDECom discussed their intent to identify standards with unique content and seek dual-logo status. This has been discussed at previous meetings, but needs follow-through and action. Discussion will continue at the December Standards Committee meetings. SDECom also discussed the need for better communication with other SDOs and coordination with SACCom. Regarding opportunities to explore, Ed

noted most new and revised standards are under active and on-target development, but closer monitoring is needed for several of these. SDECom should identify areas needing standardization work and find people able and willing to do such work. Example topics include Internet of Things and dynamic spectrum allocation. Future EMC Magazine articles will be contributed on areas of standardization opportunities.

SDECom created “Maintenance Teams” in order to monitor completed standards and determine when and if changes are needed. These teams have the following tasks and are required to report out at every meeting.

- Monitor existing standards projects
- Seek new projects
- Ensure current standards are kept current
- Develop an “EMC Standards Week” at symposia
- Address Web and Social media
- Review operations and audit
- Act as a liaison to other Standards Development Organizations (SDO)

Ed reviewed the 25 standards that are the active responsibility of SDECom. These are listed in the report. He noted five standards are co-sponsored or co-sponsorship is desired (power/energy or nuclear power). Twelve standards are being developed or revised; three of these are in ballot. SDECom can now directly maintain the status of standards on the SDECom web page. Ed noted the working groups are making better use of webinar and other tools. As learned at the last meeting, SDECom and SACCom still need to work on the ability to hold webinars at its future meetings.

Following is a status report on the existing standards that are currently being updated:

1. Std. 473 (withdrawn), Site Survey (Chad Kiger): Work underway. Little progress being made. SDECom chose to pass responsibility for overseeing this standard to TC3. Significant common ground with C63.24, on-site immunity evaluation. Standard is on track. PAR expires 2020. A PAR extension will be needed.
2. Std. 1128 (2022), RF absorber (Zhong Chen): Being extended to 40 GHz, on target. Cosponsored by APS.
3. Std. 1302 (2018), Conductive gaskets to 40 GHz (Davy Pissoort): In ballot.
4. Std. 1597.1 (2018), Computational electromagnetics (Alistair Duffy): This project is behind schedule and needs some dedicated attention. Ross Carlton will talk with Alistair Duffy to get a more complete report on how to get this back on track.

Following is an update on the new standards currently under development:

1. P370 (2019), Characterization of PB boards and interconnects to 50 GHz (Xiaoning Ye). In ballot, comment resolution. Over 400 comments!
2. P1848 (2020), Manage EM disturbance risks (Keith Armstrong). In ballot. Recirculation to begin immediately.
3. P1897 (2020), Power-line interference resolution (Mike Gruber). On target.
4. P2665 (2021), Statistical process control for EMC. (Kimball Williams). On target.
5. P2710 (2020), EM shielding for portable electronic devices (Alistair Duffy). On target, but progress is slow. A PAR extension will probably be needed.
6. P2715 (2020), Shielding effectiveness of planar materials (Alpesh Bhoje). On target.
7. P2716 (2020), Shielding effectiveness PC-level (Davy Pissoort). On target.
8. P2717 (2021), Passive Intermodulation (Yihong Qi). On target.
9. P2718 (2021), Near-field characteristics, stochastic radiators (Dave Thomas). On target.

Following is an update on the co-sponsored standards:

1. P1613 (2020), Smart Grid devices in T&D. Jointly sponsored with PES. On target.
2. P2425, Instrumentation in nuclear facility. Jointly sponsored with Nuclear Power Engineering Committee). Work is proceeding on target.
3. C37.90 series (three standards on protective relays). Jointly sponsored with PES. Work is proceeding on target.

Ed noted the Standards “with problems” include Std. 377, Spurious from Land-mobile. This standard expired in 2018 and has been administratively withdrawn. It is functionally obsolete (last revised in 1980) and only covers analog technologies. There is little interest in revising this standard. Std 473, Site Survey was administratively withdrawn in 2006. A new standard is being developed, but progress is slow. TC3 is assuming oversight responsibilities. This is parallel work with another SDO and so needs to be a higher priority. Std. 475, Field Disturbance Sensors, from 300 MHz to 40 GHz, expires in 2022. SDECom wants to extend this to <300 MHz, but no working group has been identified. Regarding Std. 1597.1, Computational EM, this was administratively withdrawn on Dec 31, 2018. Alistair Duffy chairs the working group, but progress has been slow.

Regarding SACCom, leadership includes John Norgard, Chair; Vice-Chair vacant; and Don Heirman, Secretary. SACCom will meet on Monday. Reports were received from 11 organizations. You can find the membership list at <http://www.emcs.org/standards/saccomm/sac-members.html>. The reports received will be uploaded to the SACCom web page at <http://www.emcs.org/standards/saccomm/sac-memberreports.html>. SACCom is continually looking for new reporting members. The SACCom member reporting form specifically asks about the applicability of their work to the EMC-S and what help the EMC-S can provide. The form is being updated to be very clear on our expectations.

To further this activity, the committee has invited all SACCom members to attend our symposia and to possibly give workshops on their EMC work. Four SACCom members have accepted the invitation and will present at the symposium in New Orleans, including Don Heirman on C63.4, Jim Lukas on Aeronautical and Space, Ghery Pettit on CISPR I, and Henry Benitez on IEC TC65A (industrial process control).

SACCom is tracking and reporting members that do not routinely submit reports. They have requested a more complete review of reports and specific referrals to SDECom and to the working groups. Ed noted it is important to remember that SACCom and SDECom are complimentary committees and it is important that both be considered equally for all standards activities.

For more information on EMC Society Standards, see:
<http://www.emcs.org/standards/sdecomindex.html>
http://www.emcs.org/standards/sdecom/Standards_Matrix.html

Ed’s report concluded with a summary of work in progress, long range planning activity, and a financial summary showing the VP Standards budget and expenses incurred to date.

7.0 TECHNICAL SERVICES

Chuck Bunting reported on Technical Services activities. (See Technical Services Report.) Regarding the Technical Advisory Committee (TAC), current leadership includes Chair Xiaoning Ye, Vice-chair Zhiping Yang, Secretary Sam Connor and Immediate Past Chair Chuck Bunting. TAC reports are current on the EMC BoD Repository.

Regarding the technical program in New Orleans, 200 papers were submitted for review and possible acceptance. Of these, 176 total papers were accepted (38 are poster papers and 43 are abstract reviewed papers). These papers will be presented in six parallel sessions. There are 14 Standards Week sessions and nine Signal/Power Integrity (SIPI) sessions. Chuck's report included screen shots from the final program that showed the technical program activity during the symposium week, including the Education Committee (EdCom) organized activity such as the Experiments and Demonstrations as well as the Global University and the EMC Fundamentals tutorial.

TAC and the EdCom will hold meetings during the symposium week. These are open meetings; those interested in attending are welcome. For the Monday, July 22 meeting, agenda items include the TAC repository review and update, a review of EMC+SIPI 2019 key statistics, discussion on the Abstract Review paper acceptance criteria, coordination with the Young Professionals, and TAC handbook improvement. For the meeting on Friday, the committee will report on the TCS sponsorship process and look ahead to planning for the EMC+SIPI Symposium in 2020 (Reno, Nevada).

The Technical Services report shows the breakdown of paper submittals by country with the top five countries including USA (101 papers), China (34 papers), South Korea (13 papers), Japan (11 papers) and Germany (eight papers). Regarding the areas of interest, the most papers submitted for review were to TC 10 Signal and Power Integrity (37 papers), TC 2 Measurements (22 papers), TC 4 Interference Control (15 papers) and Computational EM (13 papers).

Chuck reviewed the total number of papers accepted at past EMC Society symposiums, including Santa Clara 2015 (87 papers), Ottawa 2016 (194 papers), Washington DC 2017 (214 papers), Long Beach 2018 (105 papers), and New Orleans 2019 (176 papers). He noted Santa Clara 2015 and Long Beach 2018 were joint symposium years, i.e. the international symposiums were held in Dresden (2015) and Singapore (2018). Hence, the total number of accepted papers was lower at the US located symposiums in 2015 and 2018 accordingly.

Regarding the Education Committee (EdCom), the Chair is Bob Scully, Vice Chair is Frank Leferink, and Kimball Williams is the Secretary (Acting). The committee organized a Student Paper competition and a Student Design competition. Bogdan Adamczyk will be helping to stay on top of this activity. Regarding New Orleans Symposia support, Frank Leferink is in charge of the EMC Fundamentals tutorial. For the Clayton R. Paul Global University, Lee Hill is in charge. Bob Scully and Sam Connor are handling the Experiments and Demonstrations sessions. John McCloskey is providing the update to the Experiments Manual. Randy Jost is handling the education/curriculum for EdCom. Regarding the "Round Robin" demonstration project, Kris Hatashita is organizing this effort with assistance from Vignesh Rajamani. The equipment for the demonstration will be provided by rental companies. The goal is to have one demonstration set shipped to IEEE Sections for their regular Chapter meetings. A sample of the demonstration kit will be shown at the Thursday evening Board meeting. EdCom intends to reinstate the University Grant Program in 2020. This is prudent in light of the demonstration board project.

Chuck closed his report by showing the Technical Services budget; there has been discussion on the Board regarding a re-alignment of TAC meetings due to budget constraints. TAC is mindful of the budget constraints and aims to streamline and increase its effectiveness.

8.0 Microwave Theory and Techniques Society Report

The President-elect of the MTT Society, Alaa Abunjaileh, gave a brief verbal report on the activities of his Society. He suggested ways the MTT and EMC Societies can collaborate in the future.

9.0 CONFERENCE SERVICES

Dennis Lewis presented his report. (See VP Conferences Report.) He started by reviewing the status of current Conference activities towards meeting the strategic goals of the EMC Society for 2016 –2020.

Regarding the technical program at the 2018 IEEE EMC+SIPI symposium in Long Beach, Dennis compared the number of papers presented in Long Beach to the two previous symposiums, Ottawa in 2016 and Washington DC in 2017. He advised that there were 108 EMC papers (91 regular and 17 abstract) in Long Beach compared with 91 in Ottawa and 124 in Washington DC. There were 40 SIPI papers (29 regular and 11 abstract) in Long Beach compared with 66 in Ottawa and 58 in Washington DC. There were 23 poster papers in Long Beach compared with 37 in Ottawa and 32 in Washington, DC. The last time the International Symposium was outside North America, i.e. 2015 in Santa Clara, the numbers were 37 EMC papers, 52 SIPI papers and 8 poster papers. Note other than the symposium in Washington DC in 2017, the symposium in Long Beach, CA in 2018 had the best overall attendance since 2012. There were 1,545 attendees at the Long Beach symposium, of which 457 people paid the full registration fee.

Regarding the exhibition in Long Beach, there were 162 paid booths, plus 22 comp'd and bartered booths. Approximately 75% of the 91,000 sq ft of convention center contracted space, i.e. some 68,000 sq ft, was used for the exhibition. This included space for the demonstrations and experiments.

Regarding the 2019 symposium in New Orleans, Dennis noted the structure is such that there is the appearance of three embedded conferences:

- EMC
- Signal and Power Integrity
- Standards Week

In various discussions, this has been well received and has been seen as something that could help improve attendance. For example, “Standards Week” is intended to strengthen the practicing engineering attendance, the conference on Signal and Power Integrity is seen as offering the independent missing ‘home’ for SIPI engineers, and it allows the Symposium on EMC to maintain its focus on EMC.

The technical program for the 2019 symposium in New Orleans was previously discussed in the VP for Technical Services report.

On registration for the 2019 symposium in New Orleans, Dennis provided the following information on the 534 registrations received as of July 21: Primary Interest: EMC (247), SIPI (17), BOTH EMC and SIPI (270). Of the 442 people who provided their Primary Affiliation, this broke down to: Industry/Manufacturer (248), Government (63), Education (36), Consultant (28), Other (35), Student (29), and Companion (3). There are 21 registrations for the Global University and 44 for the Stennis Tour. A total of 49 visa invitation letters were processed.

For the 2020 symposium in Reno, Nevada, Chair Darryl Ray provided a summary of activity as part of the VP Conferences report. The overall goal of the committee is to streamline activity and reduce costs where possible. FinCom has approved the Reno symposium budget; the BoD needs to now approve the budget. The concentration banking account setup is nearing completion. No outside suppliers are officially being engaged until the initial loan has been received, with the exception of management services being contracted with ConferenceDirect.

Dennis next shared preliminary information on the symposiums planned for 2021 (Glasgow/Raleigh), 2022 (Spokane), and 2023 (Grand Rapids). For 2024, several venues were contacted, including Chicago, San Jose, Albuquerque and Phoenix. Chicago and San Jose declined offering a proposal. Albuquerque and Phoenix are interested in bringing the IEEE EMC+SIPi symposium to their respective cities. Comments will be solicited from the exhibitors at the breakfast on Thursday as to their preferred location for 2024.

An ad hoc task force has been formed to provide suggestions for symposium improvement. A summary of the recommendations and items needing more attention is included in the report. Key considerations include reducing the technical program from five days to four days, reducing the exhibition from two and half days to two days, and moving from a convention center venue to a large hotel. This would reduce the symposium expenses and potentially expand the options for symposium locations (i.e. more attractive cities with greater local industry).

Dennis then discussed the six upcoming regional events, i.e. tabletop shows, organized by the EMC Chapters located in Regions 1-6. The Phoenix Chapter event in April was attended by some 85 people. The SE Michigan and Chicago Chapters held their annual events in May. SE Michigan reported attendance by 150 people. Some 95 people attended the Chicago event. In June, the Rockford Chapter held their annual event, which was attended by 135 people. The Seattle EMC Chapter held a joint event with the AP/MTT/ComSoc/ED/VT Societies that was attended by some 85 people. Tentative plans are being made for a regional event in Latin America – Juriquilla, Mexico – at the Engineering School of the UNAM on Oct 7-9, 2019.

Regarding GEMCCon 2019, this will be held in Bangalore, India over November 6-8. A social event is planned for November 9. The report provides details on this global event. There are many leading international companies in Bangalore (IBM, Intel, Cisco, Bosch, etc., to name a few) to support this conference, along with local industry (India Space Research Organization) and academia (Indian Institute of Science). The venue is the IEEE headquarters office for India located at the World Trade Center.

For GEMCCon 2020, this is proposed to take place in conjunction with the first “IEEE Ukrainian Microwave Week” in Kharkiv during the May-June timeframe. The week consists of several conferences, including MSMW (International Kharkiv Symposium on Physics and Engineering of Microwaves, Millimeter and Submillimeter Waves), DIPED (International Seminar/Workshop on Direct and Inverse Problems of Electromagnetic and Acoustic Wave Theory), ICATT (International Conference on Antenna Theory and Technique), UWBUSIS, and MRRS (Microwave Radar and Remote Sensing Symposium).

Next Dennis reviewed the EMC-S technical co-sponsored (TCS) conferences. The TCS committee includes Dennis Lewis, Ross Carlton, Alistair Duffy, Susanne Kaule, Frank Leferink, and Gideon Wiid. Dennis reviewed the purpose and review process of this committee. The Board should evaluate a wider range of bilateral relationships with other conferences and consider the following:

1. Where IEEE Xplore is a key reason for a conference seeking co-sponsorship, the costs should fall on the conference. We will provide email publicity, an advert in one or two EMC Magazines (depending on the notice we get), provide them with a full registration and a table-top ‘booth’ at our International Symposium to promote their conference and distribute the call for papers at any other conference we run. We would also expect a minimum of one free registration and a tabletop ‘booth’ in return.
2. Where a conference is a long-standing conference of strategic importance to us (because of geography, sector, etc.) we should seek to increase our financial and technical involvement. This would be done on a case-by-case basis but there would need to be a strong expectation that the conference would return our investment plus 20%. We may want to engage in discussions with some conferences that they

become IEEE EMC Society conferences but retain their feel and relevance to their community. The benefits would include greater financial security in the planning of the conference better support from the IEEE (including insurances).

3. For conferences simply wanting to promote themselves, providing they are technically sound conferences, we can offer promotion via email and the EMC Magazine and the distribution of calls for papers at our International Symposium, including a reduced access registration (full technical registration minus the social program). They would, in return, carry an advertisement for our symposia and conferences (e.g. GEMCCon) on their website and would distribute our calls for papers to their delegates. They would offer at least one full complimentary registration to the EMC Society.

In the case of #1 and #3 above, the decision for the Board would be based on the TAC recommendation. For #2, the Board decision would also need a strategic analysis as well as TAC recommendation.

The VP Conferences report concluded with an update on the Continuity Committee and the VP Conferences budget. Changes in membership on the Continuity Committee to include past symposium chairs and vice-chairs are suggested. The budget for VP Conferences for 2019 is \$28,000.

10.0 COMMUNICATION SERVICES

Heyno Garbe presented the Communications report. (See VP Communication Services Report.)

Regarding the Transactions on EMC (T-EMC), Heyno provided an update on the investigation of the T-EMC editorial board in 2018 as reported at the last Board meeting. The IEEE Tiger Team is still examining all papers in a 2-3 year period that were submitted to the T-EMC for editorial abuse. No information is available on these papers at this time.

Regarding "Open Access", Heyno noted in April 2019 the IEEE Periodicals Committee sent out a position statement titled "Support for Open Science and Access to Publicly Funded Research". This statement is uploaded to the EMC-S Repository. In short, IEEE supports public access (also known as open access) policies that are consistent with its support for balanced and sustainable open science. IEEE does not support proposed open access policies that are economically unsustainable and undermine market-driven innovation or the quality and integrity of scholarly research, among other criteria including licensing restrictions that unreasonably interfere with the intellectual property rights of Authors and Publishers. The field of scholarly publishing continues to experience breathtakingly rapid change. IEEE believes that in order to successfully carry out its publishing mission it will be increasingly important to maintain a clear focus on core values and principles of operation. This discussion is outlined in the VP Communications report; Heyno feels it warrants further discussion at an operational planning meeting.

Heyno discussed the topic of publishing symposium papers as extended version in the T-EMC or in the Letters on EMC Practice and Applications (LEMCPA). In the past, several authors noted their preference is to publish their paper in the T-EMC. However, these additional papers present a problem to the page count limit of the T-EMC. In addition to this major disadvantage, all papers have to fulfill the following important criteria:

1. They must be extended versions of the symposium papers, i.e. 50% to 70% new content is requested.
2. They have to undergo the normal T-EMC review process. EMC Society symposium papers are mainly targeting practitioners and applications, i.e. they are not theory or research oriented. Therefore, we developed a special journal format - the Letters on EMC Practice and Applications. Looking to the conferences, we must discriminate between EMC+SIPI Symposiums and our co-sponsored conferences.

Heyno moved to direct all conference papers, which fulfill the above-mentioned criteria, to the LEMCPA. This is in line with the EMC strategy to serve all the different EMC membership groups. The motion was seconded and approved.

Regarding the T-EMC, Editor-in-Chief (EiC) Tzong-Lin reports the number of submissions was decreasing compared with the same quarter of 2018, however, this is normal if you compare the number to 2017 and prior years. We have received 123 new submissions in the 1st quarter of 2019. Among these new submissions in the 1st quarter of 2019, the number of the manuscripts from China is 42, accounting for the largest portion with 34.1%. Submissions from France and India are tied for second place at 6.5% with six manuscripts, respectively. Regarding the new submissions in 2018, the number of the manuscripts from China was 210, accounting for the largest portion with 33.4%. Submissions from the United States and India were in second and third place, respectively.

The acceptance rate, which is the ratio of the number of the accepted paper to the successfully submitted paper, has gradually increased in the past five years (2014-2017). However, it is back to a normal level of 46.1% in 2018. It should be noted that there are 18 pending papers in 2018. On time to publication, the T-EMC is significantly shorter than other related journals such as T-MTT, T-AP, T-CPMT, T-Mag, T-PD, and T-PE. Keeping the review cycle short is critical for potential authors who consider this when deciding where to submit their papers. Heyno noted the Impact Factor (IF) increased from 1.712 in 2017 to 2.167 in 2018. This is the first time that the impact factor of the T-EMC is over 2.0.

Regarding future special issues, “Advances in lightning modeling, computation and measurement” was proposed by Prof. Renato Procopio (I) with Guest Editors Prof. R. Procopio (I), Dr. Y. Baba (J) and Prof. A. Piantini (Br). This was published in June 2019 with 25 papers. The Special Issue on 2018 IEEE EMC Symposia in Singapore and Long Beach invited authors to submit of their extended versions of their papers. The Guest editors are Enxiao Liu, Xian Ke Gao, and John Mass. The estimated publication will be Aug. 2019. There were 23 papers submitted for this issue; 17 were accepted, six were rejected. Finally, a special issue “EMC for Wireless Power Transfer and Power Electronics” was proposed by Guest Editors Prof. Jun Fan, Prof. Joungho Kim, and Prof. Nuno Borges Carvalho. The deadline of full paper submission was May 30, 2019. Final report and publication is planned for the December 2019 issue.

Janet O’Neil, EMC Magazine Editor-in-Chief, reported the 1st Quarter 2019 issue was sent to the printer on March 22. It was 100 pages. New content included a review on GEMCCon in South Africa, Completed Careers (on the late James McNaull, a founder of the EMC Society), EMC Europe in Amsterdam, and Young Professionals. We did not receive any content for the Signal Integrity column. The 2nd Quarter 2019 issue was sent to the printer on June 16. It was 92 pages. New content included a Signal Integrity paper and content promoting the New Orleans symposium activity. Christian Thorton has replaced Elya Joffe as the new iNARTE Associate Editor effective with this issue. The 3rd Qtr issue will focus on the New Orleans Symposium activity. We are targeting 100 pages per issue in 2019 to lower expenses and help the EMC Society budget. For the technical papers in the EMC Magazine, we are discussing implementing a more formal review process utilizing ScholarOne. IEEE has hired a new independent ad sales rep since selling direct was not generating the target ad sales revenue. The new sales rep is Erik Henson with Naylor Association Solutions. His contact information is included in the ad index of the 2nd Qtr 2019 issue.

Ray Perez, IEEE Press Liaison, provided a report. He noted royalties received in 2018 totaled \$585.88. The report includes a summary of Wiley published books in 2018, books in progress and plans for future books. A call for authors has been regularly promoted in the EMC Magazine.

Tom Braxton reported on the EMC Society website. TC-Interest forms continue to provide new potential committee members. Captcha has been added to these forms to minimize spam. Additional work has been done by Shannon Archambeault and Kelly Scott-Olson to make the site more secure. The EMC Society Awards solicitation pages and nomination letter were reviewed in cooperation with Vignesh. The Store-locator widget was renewed for the Chapter map. Changes that were requested by the Sister Societies Committee were made. An updating tool has been re-sent to the TC Chairs. EdCom access has been tested, and access information was provided to Bob Scully and Frank Leferink. The Opt-In Monster was renewed for one year. Shannon is working with Bonnie Brench on an adjunct site to house the symposium-planning manual. Tom's report includes more information on website usage and click thrus. His report is available via the BoD repository.

Joanna McLellan provided a report on Social Media. Although the EU Article 13 was passed into law, there has been no interruption in service. Whatever the social media platforms did to insulate us from the various local laws is working well. We have continued without noticing much of a change. She suspects our page might render differently in Europe than in the US, but has not investigated it and have not received any notifications of adverse issues. The report includes the top 50 EMC-S Facebook posts as of June 29, 2019 as ranked by people reached.

Heyno reported on the following new publications:

- *IEEE Journal on Multiscale and Multiphysics Computational Techniques (JMMCT)* – The EiC is planning to have a Special Issue for the IMS of MTT. He proposes a similar Special Issue for EMC-S. Therefore, he is looking for two guest editors from the EMC-S. The general impression is that the present EiC is actively working for the JMMCT. The feedback from the EMC-S is poor; our website does not show that we are involved in the JMMCT.
- *IEEE Letter on EMC Practice and Applications (L-EMCPA)* – EiC Frank Sabath reported that the request to change the title to IEEE Letters on Electromagnetic Compatibility Practice and Applications was approved by TAB in November 2018. Since he received the approval, he has worked with IEEE Staff to set up the ScholarOne Manuscripts for the L-EMCPA. A first test site is available at <https://mc.manuscriptcentral.com/l-emcpa-ieee>. For 2019, the plan is to publish 30 to 40 papers in four issues. The issues include:
 - February 2019 - Dedicated to EMC Standardization. Due to the review of manuscripts, this issue will be delayed to July 2019. At present five papers are accepted and are with the Publishing Operations Production Portal. As soon as the editing process is finished, the first issue is going to be published. All accepted manuscripts are published as early access in IEEE Xplore. Currently we have four manuscripts in early access. Those manuscripts are not accessible for EMC-S members, unfortunately.
 - May 2019 - Mainly Abstract-Reviewed Papers. We currently have six papers in review.
 - July/August 2019 – Special Issue on new Equipment and Features with pre-publication at the Symposium in New Orleans (LA). Currently, we have not received any contribution from exhibitors.
 - November 2019 – planned special issue on standards.

To solicit papers, a general Call-for-Letters has been published in the EMC Magazine. The list of Associate Editors includes Bruce Archambeault, Don Heirman, Robert Keibel, Frank Leferink, Davy Pissoort, Bob Scully, and Mike Violette. The guest editor for abstract reviewed papers is Alistair Duffy. In summary, the L-EMCPA has been published, but is delayed by approximately six months. At present, we received 11 of the planned 30 papers. At a minimum, we need to publish 20 papers to start indexing. Therefore, we need to attract 19 more papers from the New Orleans symposiums and standards groups.

- *IEEE Transactions on Signal & Power Integrity (T-SIPI)* – Jim Drewniak reported that a letter of intent has been submitted to the IEEE Periodicals Committee to initiate the process for the Transactions on Signal Integrity and Power Integrity. Jim has reached out to Dale Becker, who is the Senior Area Editor – Electrical Performance of Integrated Systems, to coordinate this process with the Electronics Packaging Society. Dale reviewed and edited the letter of intent and the final submission is included in the VP Communications report. The next step is to develop MOUs with EPS in order to begin Phase I.

11.0 MARKETING REPORT

Mike Violette presented a marketing report. (See EMC Society Marketing.) He addressed marketing activities, advertising and branding, IoT and 5G, and events. The objective is to support the EMC Society’s Strategic Goal A in addressing emerging technologies (and people), investigating alternative modes of communication and engaging with IEEE Initiatives. The new ads to promote membership in the EMC Society were shown.

Mike noted he and Larry Cohen would continue as the EMC Society liaisons to the IEEE IoT Initiative. The goal with this initiative is to make IEEE the “Thought Leader and Premier Resource” to the 300+ organizations that currently “do” IoT. The report includes a summary of 5G activity, including a 5G Standards database under development, see <http://consensii.com/ieee5g/>.

12.0 MEMBER SERVICES

Vignesh Rajamani, Vice-President for Member Services, presented his report. (See VP Member Services Report.)

Regarding EMC Society Awards, the Awards Committee chaired by Farhad Rachidi examined the nominations received in a teleconference held on March 28 to make the selection. Their recommendation was forwarded to the Board on March 29. After having received the Board’s approval and recommendations, the Award recipients were informed, either directly or through their respective nominator. Plaques and certificates were prepared by IEEE and shipped to John Vanella (New Orleans Conference Management). Some of the award descriptions on the EMC Society website need better descriptions. Jim Drewniak has kindly offered to examine the descriptions and propose proper revisions. It would be useful to have a member of the Board on the Awards Committee next year.

Vignesh discussed formalizing the common practice to offer a complimentary full registration at the annual IEEE EMC+SIPI symposiums located in North America. In the interest of time, the Board decided to move this discussion to the meeting on Thursday, July 25.

Regarding the Completed Careers Committee, chair Don Heirman has provided a detailed report on his committee’s activity and the material needed to feature a deceased EMC-S member in the Completed Careers column of the IEEE EMC Magazine.

On EMC Chapter activity, Chapter Coordinator Caroline Chan provided a detailed report. She noted we have 85 Chapters plus two Student Chapters in India. She sent several packages to Chapter Chairs who are participating in regional conferences or those trying to create a Chapter. They can distribute the goodies as raffle prizes and distribute the call for papers and EMC membership form in order to promote the EMC Society/Chapter. Packages were sent to Cedar Rapids (for their mini symposium) and to Pakistan (new Chapter). Regarding specific Chapter activity, Denver has restarted their activity this year. Patrick Conway is leading the charge. France needs a new Chapter Chair; they had held two meetings but have not held officer elections yet. Milwaukee is slowly winding down since former Chapter Chair Jim Blaha retired; they are looking

for help and a new Chair. The Germany Chapter is looking to see if other Chapters have programs related to students. A new Angel is needed for the Israel Chapter. They have requested we send a DL to Israel when they have their EMC/Safety conference in May (note this conference is not sponsored by the EMC Society). Caroline reiterated that Angels and others need to help the Chapters in distress. She showed a spreadsheet of Chapter activity. Angels can see the trends and identify where the Chapter is heading (healthy or unhealthy). If a Chapter has less than two technical meetings in three consecutive years, the Chapter will be dissolved. The New Orleans Chapter Training on Monday, July 22 will be held as a luncheon this year (instead of an evening event) to reduce the time of the training. Emphasis will be placed on the support the EMC Society offers Chapters. Regarding the Chapter website, Wordpress is used; IEEE has a template. Thirty-two Chapters do not have a website; this has been about the same as the previous two years. A possible solution is to ensure that Chapters have entered their meetings ahead of time in the IEEE vTools so that the events are at least searchable (either online or from IEEE App). On the EMC Society website, Caroline would like to give the Chapter chair the freedom to update their info directly, instead of sending their updates via email that could be lost or not frequently updated (i.e. requires webmaster to update).

Regarding the Fellow Nomination and Support Committee, Bill Radasky advised he has not received any inquiries regarding the procedures for nominations. IEEE Fellow nominations are seasonal with November-December being the time when requests for support can usually be expected. Typically any new requests for support will not be received until late in 2018 or early 2019. His committee of one remains available to assist with any nominations of IEEE EMC Society members.

On the Fellow Evaluation Committee, Heyno Garbe reported that ten nominations were filled for the class of 2020. Considering the restriction that only one per mill of all IEEE members will be able to be elevated to the grade Fellow (ca. 360), this means that four EMC-S members will have the chance to become a Fellow. Furthermore, we have to take into account that there are increased nominations. Last year there were more than 800 Fellow nominations. The EMC-S Evaluation Committee includes Heyno Garbe – Chair; Chris Holloway - Vice Chair/Evaluator; and Evaluators Brice Achkir, Charles Bunting, Jim Drewniak, Jun Fan, Jan Luiken Ter Haseborg, Frank Leferink, and Er Ping Li. A minimum of five judges are required to evaluate each nominee. Please note that the chair is not allowed to act as an evaluator.

It should be noted for future Fellow nominations, that special accomplishments have to be described in the nomination. An outstanding overall performance does not qualify the candidate for the Fellow grade. In addition, the accomplishments must fit the proposed nomination category. For example, a “Technical Leader” is leading a group of researchers who produces the main output. A “Researcher” must be the main author of a significant number of papers. An “Educator” delivers contributions like new courses or important textbooks.

Moving forward, Heyno is addressing plans for the Fellow Evaluation Committee for 2020 (Class of 2021). He is not allowed to serve a fourth term as Chair, but is willing to serve as Vice-chair/Evaluator. The names of the new Chair and Vice-chair must be announced to the public following our December BoD meeting.

Regarding membership development, Vignesh reported total IEEE membership is down 1.3%, since this time last year, total Society memberships are up 0.8%, since this time last year. EMC Society membership is down 4.9% (123) to 3,326 (with Affiliates), since this time last year. EMC Society Student membership is even at 25 students since this time last year. We have had 30 senior grade elevations since the beginning of the year. We plan to promote senior membership to our members and encourage Chapter chairs to run senior member events during their Chapter events for the next year. We will reevaluate another senior member elevation event at the symposium in the future.

Reports were reviewed for EMC Society activity in Regions 8-10. Frank Leferink reported on Region 8. The EMC Society banner was placed at the entrance of the 2019 ESA Workshop on Aerospace, 20 - 22 May 2019 in Budapest, Hungary. Membership brochures were also available. On the SPI workshop, initially the EMC-S was not mentioned on the website, but now it is mentioned as a co-sponsor. The banner and membership brochures will be displayed at EMC Europe in Barcelona, 2-6 September 2019. Since GEMCCON 2019 is in India, which is Region 10, they will take care of promotion of the IEEE EMC-S at this conference. Frank Leferink noted Indonesia would host the APEMC 2021; hopefully this will result in a new EMC Chapter there. No reports were provided from Regions 9 and 10.

Vignesh advised the IEEE membership survey and the separate IEEE symposium survey would be distributed in September. Jerry Ramie has organized the photographers to cover the New Orleans symposium week activities.

Ram Achar's summary of Distinguished Lecturer (DL) activity is included in the report. The current plan is to offer the video DL talks only to EMC-S members via EMC-S membership number protection as a streaming video. The list of available DL video topics is included in the report. The DLs for 2018-19 include Zhong Chen (USA), Dr. Ihsan Erdin (Canada), and Gao Xian Ke Richard (Singapore). For the term 2019-2020, DLs include Prof. Dr. Marcos Rubinstein, Dr. Xiaoxiong (Kevin) Gu, Prof. Seungyoung Ahn and Prof. Liang Zhou.

Kimball Williams' reported on PACE "Professional Activities Committees for Engineers" and reiterated their goal to "...promote the professional interests of the IEEE members..." He is not be able to attend the 2019 Symposium in New Orleans. He suggests the Board identify a new Director of PACE activities who can take over this job and lead the effort in new, different, and perhaps, successful directions.

Henry Benitez reported as the Sections Coordinator. His plans for 2019 include providing Section liaison support for all regions as needed and requested and to participate in local Section Activities. He suggested having an EMC-S presence (booth and promotional materials) at the 2020 Sections Congress in Ottawa, Canada.

Vignesh Rajamani reported on the active Sister Society agreements, including:

- India - SEMCEI
- UK – IET
- ESD Society
- Australia – EMC-SA
- APS, MTT and EMC officially signed sister society agreements
- Japan – IEICE
- PSES – Product Safety Engineering Society

On the History Committee activity, Dan Hoolihan reported on the EMC Legacy Projects. For EMC Legacy III – (Europe 1975-2010) – no further work is planned at this time due to the financial situation of the EMC Society. Vignesh noted for the Legacy III project, the most important goal is to get the papers on IEEE Xplore. We can reduce the cost by NOT distributing these papers on USB memory sticks. On historical photo storage, this issue will continue to be worked on in the 2019-2020 timeframe. For the EMC Society Museum, a contract for 2019 exhibits and equipment storage for zero dollars was signed by the EMC-S and the National Electronics Museum in Maryland. The History Section in the EMC Magazine continues to feature two or three articles in every issue. The annual Founders and Past-Presidents Luncheon, hosted by the EMC-S History Committee, will be held at the New Orleans Symposium on Wednesday, July 24.

Regarding Young Professionals (YP), Louann Mlekodaj noted the committee is holding monthly telecons to plan activities. Currently there are 20 YP individuals who receive the monthly telecom invitations. Typically, they have four to six participants every month. There will be two YP events during the New Orleans symposium to promote networking and socializing. Louann has asked all YP team members to contribute to YP social media including Facebook, Instagram and LinkedIn. More info is available at <https://www.facebook.com/ieeeypemc/> and on the New Orleans symposium webpage: <https://www.emc2019.emcss.org/programs/social/young-professionals-social-events>.

Regarding the Women in Engineering (WIE) activity, Susanne Kaule has organized a WIE event on July 24 during the Symposium in New Orleans. She is planning to place the WIE banner and promotional materials in the EMC Society booth in New Orleans to reduce expenses. The IEEE WIE International Leadership Conference 2019 was held in Austin, Texas in May. Over 500 attendees participated. The IEEE WIE Leadership Summit 2019 will be held in Porto from July 25-27. The greatest growth potential for WIE is in Asia.

Vignesh concluded his report with information on the traveling one-day workshop. The drawings for the demonstration boards were sent to Jim Drewniak to get quotes for making a set. Getting a cost effective price for creating the demonstration boards has been a challenge. The offer from Gabe Alcala and ATEC still stands – i.e. we can barter the test equipment we need to run the demos in exchange for “promotional considerations”. The PowerPoint package for the training sessions that go with the boards is progressing.

13.0 SUMMARY AND CLOSING REMARKS

President Bruce Archambeault thanked everyone for attending the meeting. The next meeting series will be on Sunday, Monday, and Tuesday, December 8-10, 2019. The Standards committee will meet on Sunday. Monday will be the Board Operational Planning meeting. The Board of Directors will meet on Tuesday. These meetings will be held in Reno, NV.

The meeting adjourned for the day at 5:00 pm. The meeting continued on Thursday, July 25 at the Ernest N. Morial Convention Center. Guests at the meeting included Karen Burnham, Ray Adams and Louann Mlekodaj. Board members absent at this meeting included those absent at the July 21 meeting plus Jim Drewniak and Mike Violette.

14.0 CALL TO ORDER

Bruce Archambeault called the meeting to order at 6:00 pm on Thursday, July 25.

15.0 VP CONFERENCES UPDATE

Dennis Lewis presented a highlights report on the New Orleans symposium. Following is a technical program recap:

- Technical full-paper submissions: 201
- Technical Full papers accepted: 176 (88%)
- Abstract-reviewed submissions: 43
- Workshop Proposals: 32-received / 30-accepted
- Experiments and Demos: 21 proposals received/accepted
- Keynote Speaker: Prof. Gabriel M. Rebeiz, UCSD on a 5G topic for commercial and defense applications

Regarding the technical registrations, there were 182 full five-day EMC-S registrations, 89 full five-day IEEE member registrations and 143 full five-day non-member registrations. Together with one-day registrations,

student member registrations, exhibits only registrations, companion registrations, etc., the total registration number was 907. A complete report on symposium expenses/income will be presented at the December Board meeting. Social media was more actively engaged to promote the symposium this year. As a result, the number of LinkedIn and Facebook contacts increased over last year. Twitter was introduced for the first time this year.

On the motion for the symposium location for 2024, Dennis noted that Montreal and Ottawa are interesting in being considered for the symposium host city. We will consider those cities in 2025.

Dennis Lewis moved to approve Phoenix, AZ at the location for the 2024 IEEE EMC+SIPI Symposium venue. The motion was seconded and approved.

Dennis discussed the APEMC symposium and EMC Japan in the year 2024. Last year, in 2018, the APEMC symposium was held in Singapore. This was the 2018 IEEE International Symposium on EMC+SIPI. The Board needs to decide if it would like to hold the 2024 IEEE International Symposium on EMC+SIPI in conjunction with the APEMC Symposium and EMC Japan. The Board delayed making a commitment to a joint symposium in Asia in 2024.

16.0 VP TECHNICAL SERVICES UPATE

On Technical Services, Chuck Bunting noted that the Education Committee had a good meeting this year and will break into subcommittees to get more effective in the coming months.

17.0 VP STANDARDS UPDATE

Ed Hare noted the new Standards Week activities were well received. Several of the working groups held productive meetings during the symposium week. SDECom held two meetings and SACCom held one meeting. The Standards Committees will organize a Standards Week program for the symposium in Reno, Nevada.

18.0 VP MEMBER SERVICES UPDATE

Regarding Membership, Vignesh Rajamani reviewed the "Honored Member" discussion held during the last Board meeting on Sunday, July 21. Vignesh moved to waive the annual IEEE EMC+SIPI symposium registration fees for honored members. He showed the number of honored member registrations in 2016-2019. Ed moved to amend the motion to add the words "as sponsored by the EMC Society". Vignesh then moved to waive the annual IEEE EMC+SIPI symposium (held in North America) registration fees for honored members (for symposiums solely sponsored by the EMC Society). It was moved and seconded to table the motion. Kris Hatashita abstained from voting.

Vignesh will have further information at the next Board meeting on the number of Honored Members in the EMC-S, the approximate number of these members that attend the annual symposium, the net cost of the complimentary symposium registration, etc.

Louann reported on the Young Professional activities during the symposium week. She reviewed IEEE TAB documentation on YPs (a 40-page document) and asked about aligning this with the EMC-S Bylaws.

19.0 OLD BUSINESS

Heyno Garbe revisited the motion to approve Sections 1 and 2 of the EMC-S Handbook. The current EMC-S Handbook is outdated and requires major revision. Section 1 contains basic information about the EMC-S. Section 2 contains job descriptions and requirements for Executive Directors of the EMC-S (President-Elect and VPs). Next year Section 2 becomes important, as elections will be held. We should have this part of the document in place before we consider candidates. **Heyno Garbe moved to approve the updated Sections 1 and 2 as presented. The motion was seconded and approved. Bob Davis, Xiaoning Ye and Henry Benitez abstained from voting.**

Heyno discussed Sections 3 and 4 of the bylaws. These sections discuss the election of directors-at-large and the number of directors elected. In past years, the committee and other expenses have increased and caused financial challenges for the EMC-S. In addition, compared with our IEEE Sister Societies (e.g. AP-S, MTT-S) the EMC-S Board of Directors is very large. In past years, the number of Directors-at-Large from countries outside the US has increased. Twelve Directors-at-Large is sufficient for geographical/regional representation on the Board and will greatly reduce expenses. **Heyno Garbe moved to approve the revised Section 3 and 4 of the Bylaws. The motion was seconded and failed. Susanne Kaule abstained from voting.**

Henry Benitez discussed removing the current requirement for Board members to relinquish their Director-at-Large status when elected to the Executive Committee (ExCom). Further, he noted Excom introduced motions generally have unanimous approvals that equate to 10 votes. Therefore, only a small number of votes from the Directors-at-Large is needed to pass the motions. With the objective to reduce the Board size, yet keep the ExCom size the same, the number of Director-at-Large member votes could be diluted even further. **Bob Davis moved to take this discussion to the CB&L committee. The motion was seconded and approved. Heyno abstained from voting.**

It was noted we could not vote on these motions at this meeting since votes related to Bylaws changes require 30-day advance notice for discussion in order for the vote to be valid.

20.0 NEW BUSINESS

Discussion was held on identifying a person to act as an “external communicator” on the 2020 IEEE International Symposium on EMC+SIPI committee. This is needed for the email communication to members and others about symposium activity. Dennis Lewis, Alistair Duffy and Caroline Chan will develop a policy for use of the EMC-S iContact list.

21.0 FINANCIAL IMPACT OF MOTIONS

John LaSalle noted the motions presented during the Board meeting did not have financial implications.

22.0 ACTION ITEM REVIEW

Janet O’Neil reviewed the action items discussed during the meeting. An updated, consolidated list of action items will be sent to the Board members following the meeting.

23.0 SUMMARY AND CLOSING REMARKS

President Bruce Archambeault thanked everyone for attending the meeting. He advised that the next meeting series will be on Sunday, Monday, and Tuesday, December 8-10, 2019. The Standards committee will meet on

Sunday. Monday will be the Board Operational Planning meeting. The Board of Directors will meet on Tuesday. These meetings will be held in Reno, Nevada, at the venue for the 2020 International Symposium on EMC+SIPI.

The meeting adjourned at 9:00 pm.

Submitted by:

A handwritten signature in cursive script, appearing to read "Janet O'Neil".

Janet O'Neil
Secretary, EMC Society Board of Directors