GCN GLOBAL COMMUNICATIONS NEWSLETTER

North America Region
Interview with Fawzi Behmann, NA Region Director

By Stefano Bregni, Global Communications Newsletter Editor in Chief, Vice-President for Conferences, and Fawzi Behmann, Director of the NA Region, USA

This is the fourth article in the series of eight, started in December 2020 and published monthly in the IEEE ComSoc *Global Communications Newsletter*, which covers all areas of IEEE ComSoc Member and Global Activities.

In this series of articles, I introduce the Vice-President and six Directors on the Member and Global Activities Council (namely: Sister and Related Societies; Membership Services; AP, NA, LA, EMEA Regions) and the two Chairs of the Women in Communications Engineering (WICE) and Young Professionals (YP) Standing Committees. In each article, one by one they present their sector activities and plans.

In this issue, I interview Fawzi Behmann, Director of the NA Region.

Fawzi brings 35 years of industry experience to IEEE and ComSoc with great energy and passion in serving the organization, members and community. Fawzi's academic background was in Canada with a Bachelor in Science, honors in Mathematics with Distinction (Concordia University) followed with a Master in Computer Science (University of Waterloo) and an Executive MBA (Queen's University). Fawzi has worked with a service provider (Teleglobe Canada), equipment vendor (Nortel Networks), and the semiconductor (Motorola/Freescale) supply chain. Fawzi's contribution was in the development of a Telecom Network Management system, network edge and core product releases, and strategic marketing of SoC for communications and networking product lines. Currently, Fawzi is the president of TelNet Management Consulting Inc., founded in Texas in 2009. Fawzi has over two decades of volunteer services to IEEE MGA and ComSoc along with other societies and Future Initiatives. He has spoken as the keynote at IEEE conferences and as an IEEE Distinguished Lecturer in many cities worldwide. He has received awards from ComSoc, the NA Board, IEEE USA, MGA R5 and the R5 Central Texas Section.

Stefano: Hello Fawzi! Let us begin our interview by presenting general information about the North America Region of the IEEE Communications Society.

Fawzi: The IEEE ComSoc North America (NA) Region covers the U.S. and Canada, where the U.S. has six regions (Region 1 through Region 6, from East to West) and Canada is considered Region 7. A region has on the average 9-18 ComSoc Chapters of a total of 94 Chapters. The seven Regions represent over 10,000 ComSoc Members, about one third of ComSoc's membership worldwide.

In terms of demographics and from the membership profile, we find that the top two regions with the highest concentration of high tech industry and education are located on the west coast of the U.S. in Region 6, as well as in the Northeast section of the of the U.S. in Region 1. This is also is reflected by the highest number of IEEE Fellows and Life Fellows. The membership profile shows

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Fawzi Behmann

that the top regions with the highest number of students (Graduate and Undergraduate) are regions 6, 1 and 7. Also, it is interesting to note that the North America region represents the highest concentration of Life Members and Life Senior Members worldwide.

As for governance, the North American Region has a Board consisting of a Director (myself), Vice Chair, Secretary, seven regional representatives, and a VDL/DLT/DSP coordinator, all of whom are voting members. Then we have the Past Director, eight Standing Committees and four advisors. Like other regions, we have our own North America Policy and Procedures.

Stefano: Would you like to tell us how it was for you to begin working as NA Region Director?

Fawzi: This was certainly an exciting and welcome opportunity for me. On one hand I had been Vice Chair for the NAB for four years (2016-2019) and also as DLT/DSP coordinator for two years (2014-2015), but on the other hand, I also completed two major activities at the MGA level, one as Central Texas Section Chair (over 4,000 members) and as R5 Conference Committee Chair (29 sections).

Thus, I was excited to apply best experiences and practices at this new level. One can add that being a Chair for multiple chapters (at the grass roots level) gave me great experience serving and understanding our members and their needs and bringing what is relevant. What has helped is having attendees to fill out a feedback form after each meeting and reading and acting on information provided.

Clearly, in preparing for the task ahead, I consulted with Merrily Hartman as NAB advisor and who ran NAB previously. We had a deep dive into the ComSoc and NAB P&Ps and that helped me to understand the governance and structure. Being familiar with the P&Ps on the MGA side helped me to be an example building bridges between Chapter Chairs and local Sections for some key activities such as membership recruitment, student activities and industry outreach programs, among others.

My first task was to establish a leadership team, and define NA's mission and key priorities. These were defined in the Director's message posted on the NAB website. The mission statement for 2020/2021 is to "be relevant and inclusive" to our members, communities, and society. Some of the early initiatives were introducing a vitality checklist in February 2020. The list contains 12 checkpoints or possible activities per quarter. Some of the activities may be repeated in some quarters such as membership development, and leveraging VDL. Other activities may occur less frequently such as applying for awards, Chapter questionnaires, student activities, industry outreach, and career fairs, among others.

As we got the vitality checklist off the ground, I formalized the structure of the Standing Committees, increasing the number to eight committees, each with the specific mission of leading and helping to act as a mentor to Chapter Chairs in some of the tasks and objectives (e.g., membership development).

Stefano: What are the initiatives you started as NA Region Director, which you believe are of highest interest for our readers?

Fawzi: As a Region Director, reaching out to our members was important, for example asking Chapter Chairs to apply for fund-

Activities of the IEEE ComSoc Saudi Arabia Chapter in 2020

By Mohammed S. Juaid, ComSoc Saudi Arabia Chapter Chair

The year 2020 has been full of unprecedented circumstances. Before this year, our technical sessions were mainly dependent on physically gathering in venues such as auditoriums, conference rooms in hotels and so on. The lockdown that was imposed by the propagation of COVID-19 brought major challenges, yet it expedited some welcome transformations. Circumstances have been tough but people have been putting a lot of effort into adopting the new way of living our personal and professional lives. Among these changes is the increased dependency on virtual meetings as the main venue for delivering technical seminars. Overall, we in the IEEE ComSoc Saudi Arabia Chapter and others around the world have been striving to meet the objectives that were set before the storm of COVID-19. Luckily, high percentages of these goals have been achieved by leveraging different means.

Virtual events brought obvious advantages such as extending the reachability of our technical events to many communities beyond the geographical areas. The tools used to facilitate these events have been advancing quickly to securely enrich the user experience. Rich and advanced features help the host of these events to manage and capture the most value of these virtual seminars. However, professional networking among attendees in these virtual events has not been as effective as with the physical gatherings at the event venues. So we expect that in 2021 we will be combining virtual events with some events that will be organized in physical venues such as conference rooms if the situation allows.

Saying that, it is our pleasure in the IEEE Communication Society Saudi Arabia Chapter to share with the IEEE community some of the virtual events that we conducted in 2020. Focusing on December 2020 events, we organized two technical sessions in that month. The two sessions received a good level of participation and stimulated interesting discussion points. Following are brief reports on these sessions.

Technical Session 1:
Title: Impact of IEEE Standards on IoT and 5G
Speaker: Mr. Munir Mohammed, Senior Program Manager, IEEE India

This technical session provided a glimpse of various standardization programs that IEEE is driving in the area of IoT and 5G. It also highlighted how experts can participate and contribute to these global efforts. This session was delivered by Mr. Munir Mohammed, a Senior Program Manager at IEEE India. Mr. Mohammed has 25 years of industry experience in various roles and responsibilities. Notably, Mr. Mohammed has been in association with the IEEE Standards

Sami Al-Shuwair (left) and Mohammad Al-Muhaini (right), IEEE ComSoc Saudi Arabia Chapter Vice Chair and IEEE Section Chair.

Association (SA) and the IEEE India Office for the past eight years.

Technical Session 2:
Title: Introduction to Public-Key Cryptography and Blockchain
Speaker: Dr. Imam, Muhammad, Assistant Professor at King Fahd of University of Petroleum and Minerals (KFUPM), Saudi Arabia

This session provided a short introduction on Symmetric Key Cryptography, Public Key Cryptography, Digital Signatures and Blockchain. It also showed some live demos on key concepts of Blockchain. This session was delivered by Dr. Imam, Muhammad, Assistant Professor at King Fahd of University of Petroleum and Minerals. Dr. Imam served as the Director of the Business Incubator program at the Entrepreneurship Institute for three years (2017-2020). His research interests include system logic design, cybersecurity, Blockchain, deep learning and computer networks.

Furthermore, our chapter organized various virtual technical sessions over the past few months. These sessions covered various subjects that are of interest to the community such as the following:

· UAV Technology for Industrial Applications, Opportunities and Challenges, by Mr. Walaie, Soliman.
· Digital Transformation Journey in a Large Organization, by Mr. Almashari, Meshal.
· Working at the World Economic Forum (WEF), by Mr. AlAnsari, Mansour A.
· IoT: Trends, Directions, Applications, Challenges and Opportunities, by Dr. AlAsaad, Amr.

Our Chapter is currently preparing for the upcoming sessions for 2021. As mentioned before, we expect that 2021 events will be a mix of virtual events with some events that will be organized in physical venues such as conference rooms if the situation allows. One of the nearest sessions in our plan is to share with the community a professional story and lessons learned from a distinguished individual who recently retired after 34+ years of experience in IT and wireless communications.

ComSoc Harbin Chapter Changchun Branch: 2020 Series of Online Lectures

By Prof. Fengye Hu, Jilin University, China

The IEEE ComSoc Harbin Chapter Changchun Branch held an Online Workshop on 25 November, 2020, called the International Workshop on 6G Wireless Intelligent Networks. Under the situation of the global epidemic, our branch had made adequate preparations for this academic event in advance. Professor Fengye Hu from Jilin University organized this activity.

According to different research fields, they invited well-known experts and scholars at home and abroad, and encouraged relevant members and student members to actively communicate with experts.

With the financial support of Jilin University, the following well known domestic and foreign scholars accepted the invitation of the IEEE ComSoc Harbin Chuangchun Branch and conducted academic exchanges online during November of 2020: Prof. Xuemin (Sherman) Shen (IEEE Fellow), Professor of the Canadian Academy of Engineering and the Royal Society of Canada; Professional Engineer of Ontario; Editor-in-Chief of IEEE Internet of Things Journal, University of Waterloo, Canada; Prof. Weihua Zhuang (IEEE Fellow), Professor of Royal Society of Canada (RSC), Canadian Academy of Engineering (CAE), and Engineering Institute of Canada (EIC), University of Waterloo, Canada; and Prof. Nei Kato (IEEE Fellow), professor of Tohoku University, a fellow of The Engineering Academy of Japan, Fellow of IEEE, and Fellow of IEICE, Japan.

The topic of Prof. Shen's lecture was "Next Generation Wireless Networks: Holistic Network Virtualization and Edge Intelligence." He put forward requirements for 6G wireless intelligent networks from three aspects: digital twin network and edge computing, next generation extended network architecture design, and AI driven network management. On this basis, it is concluded that NGN should have more intelligent and flexible resource allocation, scalable network architecture and automatic network management functions. Through network virtualization and edge intelligence, this presentation gives potential solutions to achieve the objective.

The topic of Prof. Weihua Zhuang's lecture was "Channel Access Management for Cellular IoT Applications." She proposed a novel two-hop energy efficient and resource preserving channel access solution, exploiting node clustering, data aggregation, and non-orthogonal multiple access (NOMA). The report focused on the management of channel access for cellular Internet of Things, including random channel access and its
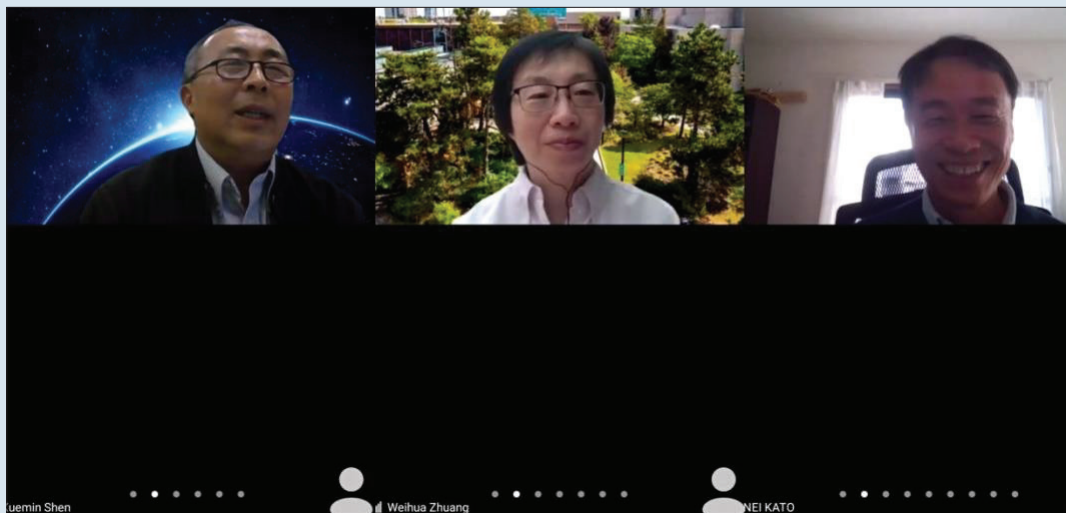

Photo of online-offline experts and students.

limitations, 2-hop non-orthogonal transmission strategies as well as related optimization algorithms. At the same time, the simulation results showed that the proposed channel access scheme can reduce the cost-effectiveness.

The topic of Prof. Nei Kato's lecture was "Ten Challenges in Advancing Machine Learning Technologies toward 6G." In the lecture, Prof. Kato introduced the 10 most critical challenges in advancing the intelligent 6G systems. It mainly included communication system, machine learning architecture and computational efficiency. Starting from the 5G network, the talk put forward the requirements of improving core network utilization and downlink load rate for 6G networks, and the objectives and standards of 6G service are summarized. The challenges above were analyzed from the perspectives of 6G service requirements, AI algorithm design, practical deployment, and future standardization.

The academic event organized by the IEEE ComSoc Harbin Chapter Changchun Branch attracted a large number of scholars and students who attended in the form of online-offline interaction. During the workshop, the experts gave lectures on advanced theoretical knowledge in a serious and vivid manner. They discussed actively and patiently answered various questions raised by members and students. Through this activity, we strengthened the links among the IEEE ComSoc Harbin Chapter, JLU, and universities at home and abroad in relevant areas such as 6G wireless intelligent network, channel access management, and 6G communication, which broadened our horizons and improved our research capabilities to a large extent.

Our speakers: from left to right, Prof. Xuemin (Sherman) Shen, Prof. Weihua Zhuang, Prof. Nei Kato.

ing or awards. But I found out a certain percentage of Chapter Chairs are not getting my message. This issue was highlighted to the MGA council, and a process was put in place. I also introduced three motions to the MGA Council related to the introduction and standardization of a Chapter Vitality checklist, improvement of the Chapter award application and metrics, and transforming the board website into a communication portal providing interactivity, aggregation of vtools meetings and tracking tools for Chapter vitality.

As the year started, we were hit with the Covid-19 pandemic, and besides encouraging and helping Chapter Chairs to move to virtual for their meetings, I volunteered to help transform the DLT/DSP into a virtual format (VDL). This process was completed with some pilots in Q2 before going to full operations in Q3 and Q4. This program was highly utilized in the NA Region.

The other initiative was membership development. We have started initiatives by the membership development Standing Committee and launched a series of activities leveraging the the VDL program by promoting membership and highlighting key benefits. For example, a promotional video on membership would start playing while people assemble around a virtual platform before the start of the VDL. Then after the lecture or just prior to the Q&A we would have a few slides promoting joining IEEE and ComSoc. We also ask if attendees wish to receive additional material.

Stefano: Are there any special needs of ComSoc members in North America? How was your effort to identify them through your first year of as Director?

Fawzi: We held four board meetings in 2020, which helped to establish dialogue with the Board members. After the first meeting, we decided to increase the meeting duration from one hour to two hours to allow for more discussion. Because of the sheer number of vitality checklists across all chapters, we have explored and introduced Trello as a productivity tool to enter and track activities at the Chapter, Region and Board levels. This is intended to save many person hours over a span of a year.

Among the other needs was to revise the criteria for the NA Exceptional Service Award and make it clearer, simpler and measurable. A revised criteria was developed and approved by the awards standing committee.

We have conducted a mid year Chapter survey for all Chapter Chairs. This helped capture key help areas, suggestionsm and contribution opportunities. Among the areas where help is needed: training on advanced features of vTools and OU Analytics; help with the virtual format in holding meeting and VDLs; marketing collaterals; support of Chapter websites; help plan outreach pro-

grams; help organize events for students and collaboration with other Chapters; and provide contributions to GCN.

These items were further analyzed and incorporated into the Regional Chapter Chair Consortium (RCCC) that was held virtually on December 5 and 6 covering over 18 sessions with 50 attendees each day. RCCC provided opportunities to network with ComSoc leaders, training, ideas for outreach and collaboration, and opportunities for sharing best practices from Chapter Chairs. RCCC was so successful that Chapter Chairs expressed interest in having a mini RCCC during the year. During RCCC, three awards were announced for NAB Exceptional services during 2020.

Stefano: Did you start any activity specially aimed at Students?

Fawzi: In Region 5, I had one hands-on IoT outreach project on air quality monitoring that was completed in Q2 2020. The project consists of four student teams, a lecturer, a faculty advisor and an IEEE host. A project demo and presentation was part of Senior Design Day held by the state of Texas. Students expressed great satisfaction from the project.

In Q4, an outreach student competition was introduced. Four teams with a total of nine students participated, with the task that each team write a paper on technology and potential applications as part of community outreach. The winners were announced in December and awards were delivered.

There has been an effort to create a new ComSoc student chapter. Such efforts will continue in 2021.

Stefano: Next year, the IEEE Wireless Communications and Networking Conference (WCNC), which is one of the most important conferences in the whole ComSoc Portfolio, will take place in the U.S., right in your Austin Chapter. You are serving as General Chair of WCNC 2022. Would you like to share something with us about the preparation activities that you and the Executive Committee are organizing?

Fawzi: Planning has started for the Wireless Communications and Networking Conference (WCNC) that will take place in Austin in April 2022. This international conference will provide technical and industry programs, keynote speakers, exhibits, and networking opportunities. Under discussion is having a program for entrepreneurs and start-ups.

Both the conference applications and MOU were signed. The contract negotiations for hotel and space is progressing. The organization committee is in place and technical tracks and co-chairs have been defined. A patronage program and activities have started and the first keynote speaker has been secured. We are working toward building a strong conference program and content with distinguished speakers highlighting the progress of 5G and collaborative technologies and the plan ahead. There are several opportunities for help, please send me a note to f.behmann@ieee.org if you like to contribute.

Stefano: Would you like to share any more recent news with the readers of GCN?

Fawzi: Although we all have been hit hard with the Covid-19 pandemic, the NA Region has persevered and in fact, has become more efficient and resourceful. Chapters participated and leveraged the power of the VDL program and conducted 59 sessions in the second half of 2020. Regarding membership, we have started seeing positive results in membership retention and acquisition of new student members. The decline we experienced in membership since 2017 is now being reversed.

I'd like to thank Ricardo Veiga, Membership Services Director, for his guidance and leadership and fostering collaboration with other Region directors. I also want to thank Nei Kato, Vice President MGA, for giving me the opportunity to present at Opcom regarding the preparation, and execution of ComSoc's VDL and Chapter Chair roster update. I appreciative being part of the BoG and having the opportunity to engage and co-chair in Industry Re-engagement at the retreat.

BIG thanks to Dr. Vincent Chan for his vision and strong leadership and for the great new team on board for marketing and membership, conferences and industry and the great collaboration between staff and volunteers. Finally, I'd like to thank you, Stefano, for such dedication and specially evolving GCN to be the true voice of ComSoc.