

Libya's first IEEE Student Branch Launches

by Ramy Harib  and Ahmed Badi 

In March 2021, two months after submitting the petition, we finally received the official approval to form the IEEE Student Branch (SB) at the University of Tripoli, the first SB of its kind to be established in Libya. It all started with a seminar about IEEE that was held in November 2020, during which the benefits of IEEE were discussed, and the establishment of the Control Systems and Signal Processing Joint Societies Chapter was announced, which was the first organizational unit for IEEE in Libya.

After this occasion, our counselor, Dr. Adel Saed, gathered a group of students to explain to them the importance of establishing an SB and how that can play a crucial role in providing students with many opportunities to enhance their skills, broaden their knowledge, and allow them to expand their networks with other students around the globe. After researching and discussing, we thought it would be an excellent opportunity to establish an SB to improve our university environment by engaging students in various activities, especially technical ones. This is extremely important for students to make them aware of the latest developments in their majors and prepare them for the next step after graduation. In addition, the SB would encourage students to do research by providing them with opportunities to participate in and organize local and international conferences.

The IEEE SB was a new idea, so it was challenging to convince students to participate in the formation process, especially since they needed to pay for their membership! Thankfully, we were able to build a team of 17 students who were motivated to join IEEE and work on the formation of the SB. However, the petition process was not a direct one for us, due to Libya being listed on the Office of Foreign Assets and Control Selective Sanctions list. We could not create the petition online as is usually done; we had to do it manually and send it to be verified and reviewed by the IEEE Legal and Compliance Department.

Creating the first SB in Libya

None of us was experienced in any of the SB activities. Therefore, we started searching for different types of activities organized by other similar SBs, mainly in the Middle East and North Africa region, contacting them to learn from the obstacles they faced and to get their suggestions about preparing the most effective annual plan to be submitted with the petition. They described the most important events that all IEEE SBs organize [e.g., IEEE Day, IEEEExtreme, and Student Professional Awareness (SPAx)] and what each entails. Moreover, they gave us some practical tips on the officers' responsibilities, like how the treasurer can get sponsors and keep records of the SB's income and spending. Furthermore, they provided us with a constitution, which is a set of rules that governs the SB according to the policies of IEEE and the university of the SB to guide new members and to ensure smooth transitions of officers.

We expected that the reviewing process of the petition would take some time until we received the final decision; therefore, we planned to work on organizing our team structure by electing the executive committee members as well as the other committees' officers. Consequently, each one became familiar with his role and responsibilities, and they worked on planning the details of the events associated with their committees. For the executive committee, the voting resulted with Ramy Harib as chair and Haneen Al-mgallesh as vice chair, and we then selected Salma Abulgasem and Abdulraouf Salama to be the secretary and treasurer, respectively. For the operational committees, it was chosen to be as follows: Mahmoud Abu-Gubba, Taha Mriheel, Radwan Fenear, and Soumaiya Abuz'eneen for the Program, Social Media, Podcast, and Magazine Committees, respectively.

There were some activities that could be prepared in advance, so we worked on them as if the SB were already established. For example, we proposed creating a monthly magazine in which we include summaries of articles from *IEEE Spectrum* in Arabic, which is a great way to improve

students' writing skills in both Arabic and English. We prepared the first edition and published it immediately after becoming official.

A podcast was another activity that we planned to work on. Podcasts have become rather popular recently due to their convenience and flexibility since anyone can listen to them at any time from whatever device. Relatively speaking, they also do not require much in terms of operating costs—just a microphone and the necessary skills to utilize it well. Despite this, podcasts based in Libya are still few and far between, so we decided it would be best to try to establish one for our SB to discuss technical topics. Before releasing any episodes, the members assigned to the podcast team decided to start learning the tools and skills necessary to produce quality podcasts. They also developed and explored the topics, themes, and guests they would pursue throughout their episodes.

Although the reviewing process took longer than usual, we were optimistic that we would get the approval we needed. Therefore, we started working on the first event that would be held immediately after the official establishment, the IEEE SB Opening Event. During this event, we announced the establishment of the first IEEE SB in Libya. We illustrated the importance of IEEE by explaining its history and how it is involved in pushing the boundaries of science and technology. We also focused on showing the SB's role in developing students' skills and knowledge to prepare them for their career paths.

Getting everything done in time was our biggest challenge, like designing posters and brochures and printing them, preparing the advertising materials on social media, and taking the necessary precautions needed for COVID. This was despite the lack of funding we had at that time, except for the support we got from the SB members and the Department of Electrical and Electronic Engineering. We were amazed by the attentiveness of the students and the number of positive responses we received, many of which expressed their interest in joining the SB. Many were surprised since several unsuccessful attempts to establish an SB at our university had already been made; nonetheless, with dedication and commitment, we could succeed this time.

A successful first year

Since we were already in March, we couldn't miss the opportunity to par-

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ticipate in the celebration of Arduino Day, the goal of which is to provide students with an overview of the Arduino platform, its types, and its applications. We also presented a couple of projects done by students as an application of topics they studied in their courses, such as an Automated Teller Machine, a remote control drone, and laser communication. Each student illustrated their work, its working principle, the components used in the project, and its potential applications.

Moving on to April, we had one of the most popular events, the celebration of the IEEE Power & Energy Society (PES) day. One of our members became the ambassador for this event for the first time in Libya, and the theme for that year was "The Clean Energy Revolution." We held a couple of online seminars where we hosted local experts to talk about the renewable energy development in the world and especially in Libya, along with the growth of the solar energy market in recent years. Furthermore, we spoke about energy vulnerability and the ability to achieve Sustainable Development Goal 7



The announcement of establishing the SB ceremony.



Organizing the celebration of Arduino Day 2021.

in the Arab region. Moreover, we highlighted the role of PES in spreading renewable energy awareness around the globe.

IEEE conferences are well-known events due to their worldwide recognition by academia and industry and the opportunities they provide for researchers to publish their work. Therefore, these were some of the main events that our SB needed to participate in, primarily because no IEEE conferences were held in Libya before. With the support of the Tunisia Section, we worked with the newly established IEEE Chapter in Libya to help organize the Maghreb International Meeting of the Conference on Sciences and Techniques of Automatic Control and Computer Engineering (MI-STA), the first IEEE conference in Libya.

This event motivated researchers from all over the country to present their work. A total of 279 papers were submitted from Libya and other countries, and 168 papers were accepted, which is considered quite a significant number in comparison with other local conferences. Our main responsibility was to provide technical support for the participants, attendee registration, and support for paper sessions and talks.

Moreover, we took advantage of this event to introduce the SB activities and their benefits. However, the biggest obstacle was balancing between organizing the conference and studying for exams since it happened to coincide with the semester's final exams. We had to divide our team into shifts for the three days the conference was held in light of the availability of each participating member. Nonetheless, we all gained plenty of experience in organizing international conferences, not to mention the connections we made with the many experts who participated in the conference, allowing us to learn from their experiences and their latest research.

During the summer vacation, we could only focus on online workshops due to the COVID restrictions. After that, with the new fall semester just starting, we decided that it was the best time to open the registration for new members, as the SB had gained the interest of many students during the previous events. The procedure for recruiting started with announcing the registration on social media, followed by a description of the responsibilities of each committee and role.

After the registration period had passed, we organized a workshop for all of the registered students to explain to them in more detail about the type of activities each committee is responsible for so that they could decide which is most suitable for them. Finally, individual interviews were scheduled for all of the new members to get to know each other better and learn about their experience and skills. At the end of the recruitment process, we ended up with almost 30 new members, which was almost twice the number of students we started with.

We arrived at the most interesting time of the year, the time for the IEEE Day celebration. The main goal of this event is to share technical ideas and spread the benefits of IEEE, its organizational units, and—especially in our case—SBs. There were previous celebrations for this event, but this one was the first official one in Libya.

During the celebration period, we planned to organize several activities, starting with a visit to the University of Sabratha, where we held a seminar about IEEE in general and SB specifically. We illustrated all of the activities we had already organized up to that point in the hopes of encouraging the students of the University of Sabratha to establish their own SB.

Second, we then held the main celebration event at our university,



The University of Tripoli SB and Libya Subsection members at MI-STA.



The welcoming of new members.

for which the theme was “Leveraging Technology for a Better Tomorrow.” In keeping with this theme, we decided the main topic should be about artificial intelligence and the recent developments in this exciting field. The celebration was jointly carried out with the newly established Libya Subsection and the Chapter’s members.

Finally, we organized an industrial visit for the SB members to a solar energy system site installed in a hospital by Insiab Libya Solar, a Libyan company specializing in designing and installing photovoltaic (PV) systems. The members had the chance to learn about the basic principles of a solar energy system and how it is integrated with the public grid. The IEEE Day celebration was the most valuable event so far, including expanding our influence to another university, sharing knowledge and experience, and connecting IEEE Members in Libya.

Due to the importance of programming in the tech industry and its value in developing essential skills for students, like problem solving and logical thinking, we didn’t want to miss the chance for our Branch and Libyan students to participate in the IEEEExtreme contest—one of the top programming contests in the world. However, competitive programming doesn’t attract many students’ attention because not many local competitions are held regularly. Therefore, most students are not motivated to learn about it, given that our Branch still has relatively few members, and not all of them are involved in these competitions.

We figured out that the sensible thing would be to gather more students by advertising for IEEEExtreme, organizing a couple of local matches, and providing the winning teams with free IEEE membership. In this way, we got more members to participate. Moreover, we held an online workshop introducing IEEEExtreme given by our ambassador, Anas Alarbi, where we focused on the types of problems assigned in the contest and how solutions are submitted and evaluated. Although our participation



The IEEE Day 2021 celebration main event.



An industrial visit to a PV system site by Insiab Libya Solar.



The SB and Libya Subsection members at the ancient city of Sabratha during a visit to the University of Sabratha.

wasn't good enough, it gave us a good experience and allowed us to recognize the main weak points of students. For this, we plan to cooperate with competitive programming experts to provide training for students before the subsequent participation this year.

Information and communications technology (ICT) is one of Libya's most developed industries and accounts for a sizable portion of the country's economy. In November 2021, Taqnya Expo was held for four days, focusing on emerging tech trends, strategies, and technologies worldwide. Our SB decided to take advantage of this event to illustrate our activities and show our role in providing an ecosystem to advance technology. Also, since various local and international companies were exhibiting at this event, finding sponsors for our future activities is an excellent opportunity.

During the expo, many sessions were held on cutting-edge technology and the country's latest developments in

the ICT sector. The SB participation included an illustration of our previous activities by displaying photos and videos of earlier events. Furthermore, we presented brochures to the visitors and a printed edition of our magazine. This participation has allowed us to connect with many companies and people, many of whom showed their admiration of our work and proposed ways that they can support us, from training opportunities to industrial visits and other means of collaboration.

We couldn't find a better way to end the year than by hosting the SPAX event. Students had the chance to meet with expert engineers from various backgrounds and learn from their experiences and challenges in their career paths, allowing them to set out clear goals for their own future. In this version, we set the event's theme to Libya's telecommunications industry.

We hosted three engineers who have worked for both local and international companies. The first one was a



Brochures and the magazine of the SB presented at the Taqnya Expo 2021.



The University of Tripoli SB booth at the Taqnya Expo 2021.



Hosting the IEEE SPAX 2021 event.

wireless engineer at Al Madar Al Jadid company. He described how mobile networks are structured, outlined the main technical paths a telecom engineer graduate can take, and clarified the difference between a vendor and an operator company. The second host was a core network engineer at Huawei. She talked about her experience in the industry and focused on the challenges she faced as a female engineer more specifically. The final one was also from Huawei, but he was a service sales director. He talked about how to build one's career and what plan to follow to transform oneself from a student to a professional engineer.

After these sessions, a panel discussion was held to discuss the common questions students ask and point out some essential skills they usually don't focus on. This event had a significant impact on students and recent graduates, as it gave them good insight into some of the available career opportunities they can take, what challenges they might face, and what skills they should acquire to be ready for this journey.

Expanding activities and membership in 2022

Since the beginning of 2022, we have continued our activities and recruited more students, reaching more than 50 members. One of the main events we organized was the second edition of MI-STA conference, which, this time, was held at the city of Sabratha. It showed an increase in interest, with a total of 271 paper submissions, of which 144 papers were accepted. Moreover, we orga-

nized a workshop on how to be a good researcher, which was given by Dr. Khaled Rabie, a senior lecturer at the Manchester Metropolitan University. During the workshop, many topics were discussed including how to choose a topic for a bachelor's degree thesis; how to convert it into a paper; where to publish it; and, finally, the common mistakes that researchers usually make.

Recently, our SB was honored to participate in the IEEE Region 8 Student and Young Professional (SYP) Congress 2022 in Tunisia, which hadn't been held in person since 2018. There were four participants from Libya, three representing the SB and one participating



The SB members at the MI-STA 2022 conference.



A view from the workshops given during the congress.



The Libya representative with IEEE leaders and other participants.



The participants of the IEEE Region 8 SYP Congress.

as a young professional. Several activities were organized during the conference. The main one was technical workshops, which covered many interesting topics, such as the Internet of Things, cybersecurity, entrepreneurship, how to benefit from IEEE throughout your career, and many more. There were also visits to learn about Tunisia and its culture. In addition, we had a multicultural party, where participants had the chance to represent their country by wearing their traditional clothes and serving their traditional foods, which was a great way to learn about many different cultures, especially since IEEE Region 8 has the most countries with diverse cultures. However, what elevated the experience even more was not just the vast amount of connections we had made with people from around the world but the opportunity to learn from their expertise in IEEE and get inspired by the activities they organized in their SBs.

Moreover, during the plenary sessions, we learned from IEEE leaders and young professionals about their journey in IEEE, from SB, to Section, to holding positions across the Region and the world. Also, they illustrated how to manage a balance between professional life and volunteering with IEEE, which developed their skills

and provided them with opportunities to advance in their career. This experience has proven to us that “IEEE is our professional home,” as Ray Liu (the IEEE president) said, motivating us to continue volunteering with IEEE after graduation and leaving the SB, which will help make this community more prominent in Libya.

Despite the challenges we faced, from the global pandemic to the rough situation that our country has been going through, we successfully

established the first IEEE SB in Libya, organizing and participating in many local and international events. That said, we would be nowhere without the dedication the members showed and their ambition to change our university for the better. We aspire to share our knowledge and experience with other Libyan universities so that they may establish an SB of their own and expand the IEEE community in Libya.

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