

Lebanon Section

Bachar El Hassan

Section Vitality

Please provide information about the date of last Section elections, date of next elections, and do you have the practice of Vice-Chair becoming the next Section Chair. Section ExCom meetings (list them and provide brief summary if appropriate). List the activities carried out to retain and recruit members and the results obtained.

- *The last elections took place on December 29, 2020. The next elections will take place in December 2022. Call for nomination have been sent and will close on October 31, 2022.*
- *The vice-chair is in general the favorite candidate to become the next section chair, but it is not automatically done.*
- *Four executive committee meetings were held in from March 2022t ill now. In these meetings, we managed and planned the work to be done in 2022and started its execution. The main event that will be organized is IEEE Lebanon section student completion that will take place end of October 2022.*
- *To retain regular members, we supported each member with about 40% of the membership fees and each student member with more than 50 % of the student's membership*

We are working on engaging our members in continuous education and life-long learning by cooperating with different communities. For instance, we have recently partnered with BeirutAI, the largest applied Artificial Intelligence community in Lebanon. This partnership empowers our IEEE members and provides them with the needed expertise to apply AI in different fields.

The IEEE- Lebanon Section MD is also representing the IEEE Lebanon Section in many events in- including webinars and IEEE day celebrations on different university campuses and working towards recruiting new students and empowering the student branches. Furthermore, the MD is collaborating with student branches and organizing events including technical and non-technical workshops to help our members gain and develop new skills and be active life-long learners.

To grow and attract new members, we are also regularly promoting IEEE in different events and workshops by giving a presentation about the importance of IEEE and the main benefits of becoming an IEEE member.

Recently, our secretary appeared on a national TV station to talk about Metaverse technologies.

Students

List of Student Branches (SB) in your Section, the newly formed or dissolved SBs, if any since the last meeting reporting (March 2022). List the student meetings held and Section activities addressed to Students and Young Professionals.

- *American University of Beirut*
- *Saint Joseph University School of Engineering*
- *University of Balamand*
- *Lebanese University – Tripoli*
- *Lebanese Univ Faculty Of Engineering-Hadath*
- *Lebanese University Faculty of Eng – Roumieh*
- *Lebanese University, Faculty of Sciences*
- *American University of Science and Tech*
- *Beirut Arab Univ – Dibbiyeh*
- *Beirut Arab University – Tripoli*
- *Holy Spirit University of Kaslik*
- *Notre Dame University-Lebanon*
- *Islamic University of Lebanon*
- *Lebanese American University*
- *Lebanese International University*
- *Rafik Hariri University*
- *Antonine University*
- *City University – Tripoli*
- *Arts, Sciences & Technology University in Lebanon AUL.*

The majority of the student branches are very active. They organize regular and yearly events. Each year, 2 or 3 student branches from the Lebanon section receive the outstanding student branch award of Region 8.

The main challenge in the coming years) is the membership renewal of students due to the economic collapse in Lebanon and the devaluation of the Lebanese currency to about 5% of its original value. This resulted in the inability of a vast majority of members, especially students, to renew their memberships. The IEEE Lebanon section stood by the student branches and provided direct financial support. We provided USD325 to each of our 19 student branches to support student membership renewals and retention. We are still investigating possible ways to financially support IEEE members and

cooperate with IEEE to come up with solutions for paying the membership fees. We are also trying to contact IEEE and we really appreciate any kind of financial support.

Affinity Groups

List of Affinity Groups (YP, LM, WiE, SIGHT, etc.), list of SB AGs, newly formed or dissolved AGs/SB AGs, if any since the last meeting reporting (Oct 2020). List the activities intended to support affinity groups.

IEEE Lebanon section has 4 affinity groups:

- *Young Professional Affinity Group*
- *Life Members Affinity Group*
- *Women In Engineering Affinity Group*
- *SIGHT*

The four affinity groups are very active as reported next.

*The **Young Professional Affinity Group** is very dynamic. Each year, the group organizes the IEEE Students and Young Professionals Lebanon Congress. In 2021, amidst the economic and political crises in Lebanon, students and YP activities focused on spreading awareness about IEEE and organized technical and soft skills workshops and events to empower university students and give them the self-confidence to develop their competencies and compete in the labor market under the “Compete to Complete” umbrella, compete to complete our country’s needs and improve our lives... They hosted technical experts to talk about trending topics such as Power Electronics Systems, Future Trends In Sustainability, AI in Renewables, and Artificial Intelligence Hackathon.*

The section supported six young professional members to attend the Region 8 SYP congress 2022 at Tunisia. We covered the full expenses of their travel by an amount of more than 5000 USD. Those members will be the core of the next YP committee that will re-activate and repower the IEEE Lebanon YP affinity group dynamism

*The **IEEE Women in Engineering Affinity Group** organized the following virtual events:*

- *IEEE Women In Engineering (WIE) – Lebanon Affinity Group organized, in 2022, the following events:*
- *25th IEEE WIE Anniversary on 2-2-22: on a special date, we celebrated a special occasion, the silver jubilee of WIE, and we received Mrs. Zeina Darwich (Certified Mental Health & Energy Coach – PCC, MP-ELI, CTD, CLD) who did a workshop about “Self-Care”.*
- *On February 3: we sponsored a workshop @ LAU-Byblos, entitled “Design of OFF-Grid Solar Panel System and Battery Sizing”.*
- *Speakers were: Eng. Mira Daher and Eng. Mohamad Mneimneh from Mashriq Energy.*
- *On February 5: as we believe that the Future isn’t magic; It is Artificial Intelligence, and that we can have Data without Information, but we cannot have Information without Data; we organized the “Data Science & AI Day”.*
- *85 students from all Lebanese Universities attended and received certificates of participation. Trainers were from Beirut AI.*
- *Thanks to the huge success of this event, WIE reorganized it on February 9.*
- *On February 11, the International Day of Women and Girls in Science: we organized a panel about “A Day in the Life of a Women In Engineering”, at New Yorker coffee Shop – Beirut.*
- *With Wise, Inspiring and Exceptional ladies, panelists were an architect, a computer, biomedical, civil, telecommunications and urban engineers.*
- *On March 9: we technically sponsored the webinar organized by IEEE LMAG, and provided by Dr. Walid Al-Deghaili, on “Electricity Generation in Lebanon - Lessons Learned between Past and Future”.*
- *WIE is partner of the 2nd edition of the Arab IoT & AI Challenge – Lebanon launched on July 28,2022.*
- *WIE paid for the IEEE membership for 37 female Lebanese students.*
- *We also developed our website that will be online soon.*
- *WIE could realize these activities thanks to a grant from The U.S. Department of State’s, U.S. Middle East Partnership Initiative (MEPI) and World Learning. We would be able to make more activities if we are financially supported by IEEE WIE and IEEE Region 8.*
- *All IEEE Lebanon WIE events can be watched on our Facebook Page: @wielebanon.*

The Lebanon Section **SIGHT** was established in 2018. It was one of the first associations that worked on the ground after the fateful explosion of the Port of Beirut. **SIGHT** had a big role in recruiting volunteers from IEEE Lebanon Section to help those affected by this explosion.

Life Members Affinity Group is growing in Lebanon. **LMAG** got last year a grant of about USD 25,000 for a renewable energy project in Lebanon that is still in progress.

Chapters

List of Chapters and SB Chapters in your Section, the newly formed or dissolved Chapters, if any since the last meeting reporting (March 2022). Indicate how many have reported on time and received rebate. Highlight some of the activities.

IEEE Lebanon section has three chapters and three joint chapters:

- IEEE Communications (ComSoc) Society Lebanon Chapter
- IEEE Computer Society Lebanon Chapter
- IEEE Engineering in Medicine and Biology Society (EMBS) Lebanon Chapter
- Joint Chapter, AP03/MTT17/MAG33 (CH08691)
 - Antennas and Propagation Society
 - Microwave Theory and Techniques Society
 - Magnetics Society
- Joint Chapter, IE13/PE31/CAS04/PEL35 (CH08625)
 - Industrial Electronics Society
 - Power and Energy Society
 - Circuits and Systems Society

EMBS Lebanon Chapter has a flag conference that is held every 2 years: ICABME, The sixth edition of this conference took place in October 2021 and was very successful.

- ComSoc organizes each year the IEEE Lebanon communications workshop (IEEE LCW) that took place more than 10 times and they are a technical sponsor of MENACOM '22, which will take place in Morocco.
- RAS is always an important partner of all robotics competitions that take place in Lebanon. Members of RAS serve always as co-organizers and Jury members of those competitions.
- Computer Society started last month cooperation with Arab AI organization and will be responsible of the competition of Arab AI in Lebanon.
- Power Chapter got the award of the most active chapter in Lebanon during 2020. They are also very active in 2021.

Industry

List the activities carried out to foster relations with Industry and the results obtained.

IEEE Lebanon Section continues its deep cooperation with industry and maintains its previous relations established during the last years with many Lebanese industrial entities:

Alfa, Ericsson, Nokia, ZRE Lebanon, BDD, Foo, Arabnet, and the order of engineers of Tripoli.

The IEEE cooperation with Lebanese industry has a positive effect on the IEEE Lebanon section:

- Internships for IEEE student members *Support of IEEE Lebanon Section activities. *Improve the knowledge of IEEE Members
- Presentations about IEEE and its activities and the benefit of being an IEEE Member are done. Thus big numbers of Lebanese Electrical engineers will have the opportunity to learn about IEEE.

It is worth mentioning that in order to improve the relation of all our affiliated chapters with the industry sector, a new sub-committee called the Industry Subcommittee was established. All chapters and affinity groups had a representative in this subcommittee and it is coordinated by the Section's industry Ambassador.

Activities since the last report

Highlight some of the activities in your Section, with special attention to the things that work well, and things that don't, so that your acquired know-how can be used by other Sections.

The most important activities that took place in the Lebanon section are:

- EMBS Students competition that took place in July 2022
- Many events have been organized but IEEE Lebanon section chapters. Down are listed some examples:
- Title: Arduino Workshop for Beginner, Time: Feb. 17, 2022 at 4:00 PM (Beirut Time), Place: Notre Dame University-Louaize, Barsa, Number of participants: 25
- Title: Arduino Workshop Advanced Session Time: Feb. 24, 2022 at 4:00 PM (Beirut Time). Place: Notre Dame University-Louaize, Barsa, Number of participants: 25.
- Title: Smart Battery Gauge and SoC/SoH/SoF estimation, IES DL Speaker: Dr. Mo-Yuen Chow. Time: March 18, 2022 at 6:00 PM (Beirut Time).
- Title: Switchgears Workshop, Time: March 22, 2022 at 4:00 PM (Beirut Time), Place: Conference Hall - USEK Main Campus, Kaslik.
- Title: PLC Workshop, Time: April 7 and 9, 2022 at 1:00-5:00 PM (Beirut Time).Place: Training Center - USEK Main Campus, Kaslik
- Title: IEEE Keep Connected, Time: June 18 2022 at 9:45-5:00 PM (Beirut Time), Place: Conference Hall - USEK Main Campus, Kaslik
- Title: Single-phase Parallel &series connected InvertersTime: July 22, 2022 from 3:00 till 4:00 PM (Beirut Time).
- Title: DESIGN OF EMBEDDED ELECTRICAL ENERGY CONVERSION DEVICES: MODELING/EXPERIMENTATION, Time: August 26, 2022, 9:30AM- 4:15 PM (Beirut Time).Place: Lebanese University - Faculty of Engineering - Ras Maska on Wednesday 24 August 2022 @ 10:00 am
- Title: IEEE CAS-IF SUMMER-I 2022: "WEARABLE DEVICES (WD)", Time: August 26, 2022, 9:30AM- 4:15 PM (Beirut Time), Place: Conference Hall - LIU Main Campus, Beirut
- Title: Resilience Across Complex Systems, A Webinar On Tuesday July 12, 2022 @ 6 PM (Beirut time - GMT +3)
- Title: It is all about data, A Webinar On Thursday June 30th, 2022 at 6:00 PM (BEY time - GMT +3)
- Lebanon IoT and AI challenge 2022, July 28th, 2022, online.

Planned activities

Highlight some of the future activities and initiatives in your Section.

- *We are planning to hold this year the second IEEE Lebanon section student competition. It is an opportunity to make a deep cooperation among all chapters and all affinity groups. Each chapter will be in charge of one track. Also it will improve the relations between students and all the chapters. We are planning to make this competition it in october202*
- *IEEE Days will be organized by different student Branches during October 2022. Also we will organize an IEEE Nation Day at the end of October 2022 in parallel with the IEEE national student competition.*

How Region 8 can be of help to your Section, members, and activities

List any challenges your Section is facing and what support is required from Region 8. Please, also, give us your suggestions for agenda items that you want to be discussed during the R8 Committee meeting.

The major challenge that we are facing is the actual nonstable situation in Lebanon. We are afraid currently of not being able to maintain a proper membership renewal process, which would directly affect membership retention. As it is known, IEEE Lebanon section has grown up quickly during the last years and has reached more than 1700 members in 2018 which lead to the reception of many membership retention awards. During the last year, the economic situation collapsed dramatically. A huge devaluation of the Lebanese Lira occurred. The price of one USD passed from 1500 LBP to more than 20000 LBP today. As a direct consequence, the banking system put very restrictive conditions on withdrawal and on online payment. To reduce bank runs and prevent the default of Lebanese banks, several restrictions were enforced including:

- Heavy limitations on cash withdrawals in Lebanese pound and in foreign currency (small to none)
- No exchange from Lebanese pound to US Dollar using the official rate of 1515 LBP/USD. In that case, people have to

reply on exchange offices with rate a exceeding 38000 LBP/USD!!!

- Very big Limitation or cancellation of the use of credit cards for online payments or payments out- side Lebanon.

We have received many request from IEEE members to find a solution for the payment of their membership renewal fees. Other members especially students asked to waive them or alternatively help them with a reduction of the fees. The IEEE Lebanon Section is seriously concerned about losing a big portion of its members due to the current crisis.

Attached a presentation we made about this issue. We are still hoping that IEEE will reduce member- ship fees to IEEE Lebanon members.

We hope that IEEE Region 8 and IEEE MGA will be able to help our members in renewing the memberships for 2023!

Any other issues of interest

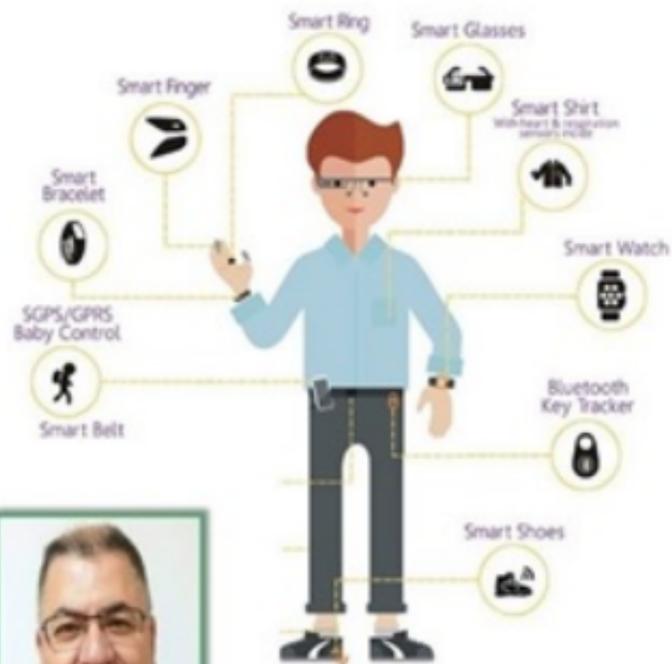
Region 8 can play a very important role in fostering industry connections by helping local sections and chapters in establishing a network of connections with different international companies and entities within the Region itself. Local sections are usually unaware of potential partnerships with international companies due to a lack of information. The Region can therefore maintain and share a database of potential companies working closely with IEEE and looking for new links with different local sections and chapters.

IEEE CAS-IF SUMMER-I 2022

The CAS Emerging and Selected Topics for Industry Forums (CASIF)

WEARABLE DEVICES (WD)

AUGUST 26, 2022 | LIU - BEIRUT CAMPUS



Dr. Ahmed Madian
Energy Harvesters for Wearable Devices



Dr. Mohamad Sawan
Closed-Loop Neuromodulation for the Treatment of Neurodegenerative Diseases



Dr. Ahmed Soltan
Toward Full-smart Bioelectronic Devices



Dr. Mounir Boukadoum
Artificial Intelligence for Wearable Devices

For more Info : <https://attend.ieee.org/casif-summer-2022/>

IEEE Lebanon Arduino Workshop 2022



IEEE CONNECT



JUNE 18
FROM 10 AM TILL 5 PM

USEK - MAIN
CAMPUS, KASLIK



IEEE CONNECT



**LET'S
DISCOVER
THE AGENDA !**

SWIPE RIGHT →



IEEE CONNECT

AGENDA

SPEAKER 1

NICOLAS DAWALIBI

10 AM - 10:10 AM	Welcome Note - 10:10 to 10:15 - Review of the agenda
10:10 AM - 11 AM	Recent Advances in Electric vehicles presented by Dr. Jean Sawma
11 AM - 11:30 AM	Breakfast
11:30 AM - 12:30 PM	Embracing Agility Through Transparent Communication by Eng. Mahdi Hussein
12:30 PM - 1:00 PM	Cybersecurity From A Technical Perspective presented by Nicolas Dawalibi
1:00 PM - 2:00 PM	Lunch Break
2:00 PM - 3:00 PM	Women In Engineering presented by Dr. Sandy Rihana
3:00 PM - 4 PM	Competition - Engineering challenges and games
4 PM - 4:15 PM	Announcement of the winners



CRYPTOCURRENCY FROM A
TECHNICAL PERSPECTIVE

Nicolas Dawalibi is a researcher in Cryptocurrency, an avid layer 0 engineer, heavily immersed in the space and also the founder of Crypto Exchangers.

SPEAKER 2

ENG. MAHDI HUSSEIN



EMBRACING AGILITY THROUGH
TRANSPARENT COMMUNICATION

Mahdi Hussein is a civil engineer holding a MSc in advanced engineering management. He is an agile project management practitioner, certified career, executive and team coach, and also the President of Structure (IMQ) in the Midlands Region.

SPEAKER 3

DR. SANDY RIHANA



WOMEN IN ENGINEERING

Dr. Sandy Rihana is a computer and biomedical engineer with a background covering engineering, healthcare, innovation, and management. She is also the co-founder and head of the Biomedical Engineering department at USEK.

SPEAKER 4

DR. JEAN SAWMA



RECENT ADVANCES IN ELECTRIC
VEHICLES - MULTIPLE ENERGY
SOURCES HYBRIDIZATION

Dr. Jean Sawma is an electrical engineer and a professor at ESIB. He is experienced in Model Perspective Control, power electronics control and electrical motors and FPGA SoC based embedded control.

IEEE CONNECT



JUNE 18
FROM 10 AM TILL 5 PM

USEK - MAIN
CAMPUS, KASLIK



 **IEEE**
Lebanon Section

IEEE Lebanon Joint Chapter



IE13/ PE31/ CAS04/ PEL35

 **USEK**
HOLT INTERNATIONAL
UNIVERSITY
OF SARKIS

[BEIRUT AI]

Single-Phase Parallel & Series Connected Inverters

Sanjib Kumar Panda



- Ph.D. degree from the University of Cambridge, U.K. in electrical engineering.
- Published more than 450 peer-reviewed research papers, co-authored one book.
- Serving as an IEEE PELS Distinguished Lecture for 2022-23.
- Chair of the IEEE PELS Technical Committee, TC-12: Energy Access and Off-grid Systems.



Time: Friday, July 22
From **3:00 PM** Till **4:00 PM**
Fees: Free



IEEE LIU Student Branch