IEEE Iran Section Report

Feb 2024
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Section Vitality
The last elections were in December 2022, with Prof. Hossein Askarian Abyaneh elected as chair and Prof. Vahid Ahmadi elected as Vice-Chair. Also, Dr. Hadi Ali Akbarian and Dr. Mohammad Reza Yousefi were the Secretary and Treasurer, respectively. It should be noted that 615 members participated in this election. Iran Section's next election is in December 2024. Some activities will be conducted in order to make the Vice-Chair become the next Chair; however, it depends on the final results of the elections. The Iran Section holds meetings at the end of each month. Since the last report, four meetings have been held focusing on the section’s strategic plan (one of the most important tasks in which all committees, affinity groups, and chapters are involved in developing the plan), reviewing award nominees, and planning for the 14th Iran Section Awards Ceremony.

Students
Currently, we have 58 Student Branches (SB) (Link). Some of the members of SBs are members of the Students Activities Committee (SAC) and all 15 committees of the Section which helps the section, body to be more dynamic.

- We held the 14th IEEE Iran Section Awards Ceremony (February 2024). This meeting is extremely important since it brings together the entire section and beyond, (Fig. 1)
- The 21st Annual Meeting with Student Branches Counselors and the IEEE Iran Section Executive Committee. In the presence of members of the student branches, instructors, advisors, and the executive committee, along with a visit to the Communication and Information Technology Research Institute, Feb. 2024, (Fig. 2)
- Achieving the position of the best counselor by the University of Tehran student branch, Feb. 2024.
- Active participation in R8 meetings
- Cooperation with the student scientific organization
- Revision of regulations for student awards, Feb. 2024
- Holding a meeting with the board of directors of all branches and counselors of the branches, Feb. 2024
- Compilation of regulations for the review of student conferences
- Active presence of SC students in assemblies, committees, and other parts of the Iran Section
- Support and design of the Upside-Down World podcast contest
- Cooperate in holding a series of scientific meetings, Dec. 2023, (Fig. 10)
- Cooperation in holding student workshops (Fig. 21)

Affinity Groups

Establishing Planning Committee
This committee was created to perform the plans made in the 5-year strategic plan and their results. Consequently, this committee evaluates the plans, which are correlated to the scope of the strategic plan, under the responsibility of Dr. Khaki Sedigh.

Life Member:
Establishing IEEE Iran Section Life Member Affinity Group (LMAG), Oct. 2023.

The Petition form for establishing the IEEE Iran Section Life Member Affinity Group (LMAG) was submitted first online on November 11, 2022, and then on October 12, 2023, by email to the IEEE Petition Processing Office, including the names and signatures of six IEEE life members. This petition has been cleared by legal and compliance and is waiting for clarification from IEEE relative to any United States OFAC financial sanctions.

Young Professionals Committee:

- In the Young Professionals Committee of the IEEE Iran Section, we are excited to announce the launch of a new podcast series titled "Inspiring Journeys." In this podcast, we engage in enlightening conversations with accomplished and influential Iranians, both within and beyond our country's borders, who have made significant contributions to research fields relevant to IEEE. The purpose of this podcast is to serve as an audio repository of memories, life stories, and the
challenging yet rewarding paths taken by Iran’s scientific pioneers. These narratives will be saved in our nation’s scientific history, serving as a wellspring of inspiration for future generations. Moreover, it stands as one of the premier platforms for the transfer of knowledge from seasoned experts to young professionals. Dec 2023 – Now, (Fig. 8a-e)

- Provide tailored events and initiatives to support young professionals, fostering networking opportunities, career development, and leadership skills early in their careers. Additionally, offer online webinars presented by industry experts and reputable companies to help young professionals evaluate their career goals, enhance their skills, and expand their professional networks, March 2023, Jan 2024, (Figs. 8.f, 8.g)
- Introducing a new column in the IEEE Newsletter dedicated to representing the achievements of Young Professionals. In this column, we try to highlight the monthly accomplishments of Iranian young professionals, providing a platform for increased interaction and discussions within the community. Through this initiative, we aim to celebrate the successes of our members while fostering greater connections and collaboration among young professionals in Iran.
- Establishing connections and organizing meetings with various Young Professional (YP) branches across universities in Region 8. Given the proximity of the neighborhood to Turkey, we have facilitated meetings between young professionals from the Iran and Turkey sections, including universities such as Gazi University. These gatherings aim to foster dialogue and collaboration on shared projects and future opportunities for scientific cooperation among young professionals, (Fig 8.h)

**WIE:**

The mission of WIE is to participate, encourage, and empower women in science and technology around the world, specifically in Iran. Our vision is a vibrant community of IEEE men and women who, collectively, use their diverse talents to innovate for the benefit of humanity. Women in Engineering branch of IEEE Iran, under the management of Dr. Azimifar, to facilitate the status and career advancement of women in engineering and science and to promote efficient cooperation between engineers and scientists through the Women in Engineering (WIE) network.

**Activities done by WIE since the last report**

- Collaboration and Interaction with the Dubai were side performed by the chair of the WIE committee.
- Holding a series of scientific meetings, Nov. 2023, (Fig. 4)
- WIE Conference, Fall 2023 (Fig. 11):
  - The Autumn meeting of women in engineering was jointly organized by the women's branch of the IEEE Iran Association and the National Conference of Artificial Intelligence and Software Engineering at Shiraz University.
  - Highly regarded female professors and engineers delivered six uplifting and professional talks. Over 100 academics and engineers attended the event. As expected, the summit was very well received.
- WIE Professional Development, 2023 (Fig. 16):
  - Acknowledging 50 years of dedication to advancing engineering in Iran by the honored Mrs. Engineer Minoo Namatolah, distinguished emeritus of Shiraz University
  - Generative AI for Women (Supported by the Ministry of ICT), Dec. 2023, (Fig. 24)
  - It was initiated by 155 female team registrations and closed by awarding the 18 best innovative ideas using Gen AI.
- Leading Women in Engineering Webinar, Dec. 2023 (Fig. 13)
- Economic, Artistic, and Research Facilitating Ideas based on Generative Artificial Intelligence for Women, Events, Dec 2023, (Figs. 23,24)
- Event of Artificial Intelligence in Fashion, Sep. 2023, (Fig. 6)
- Economic simplifications for women in engineering and business seminars

**Educational Activities Committee (EAC)**

- Key Concepts in the Blockchain Technology Workshop
- Hyperledger Fabric Technology Workshop
- How to Write a Research Paper Webinar
- Discover the Golden Point Webinar
- Lecture by Eng. Hassan Etaat, Career Path Design for Young Graduates
- Lecture by Dr. Mehdi Shami Zanjani on digital transformation
- Lecture by Dr. Karim Mohammadpour Aghdam, Industry Relations Panel
- Near Field Antenna Pattern Measurement Webinar
- Swarm Robotics in Oil Spill Monitoring and Cleanup Webinar
- Introduction to IEEE Women in Engineering
- Haptic Technology in Intraocular Surgeries Webinar
- The first course of workshops for managers and activists in the field of the Internet of Things with the LoRaWAN approach,
• Step-by-step principles for starting and developing a startup,
• Developing a business plan and model,
• Digital marketing,
• Legal issues of starting a business,
• Interpersonal Influence in Computer-Mediated Interactions.
• Speech by Maciej Borówka, Chair of the IEEE District 8 Student Activities Committee
• Speech by Prasanth Mohan, Student Awards Officer, IEEE MGA Student Activities Committee

Chapters
• Planning to establish two new chapters in Biomedical Engineering and Electron Devices
Currently, we have 6 active Technical Chapters as follows:
  1) Communications and Information Theory Chapter (Link)
  2) Control Systems Chapter (Link)
  3) Electromagnetics and Photonics Joint Chapter (Link)
  4) Power Chapter (Link)
  5) Electronic Circuits and Systems Joint Chapter (Link)
  6) Computer Engineering Joint Chapter (Link)

Activities done by Technical Chapters
• Control Chapter Periodical Meetings
  o Holding a series of scientific meetings, Dec. 2023, (Fig. 10)
  o Holding two virtual meetings to review and evaluate the following two international conferences:
    - ICROM 2023, 11th RSI International Conference on Robotics and Mechatronics.
    - ICCIA 2023, 9th International Conference on Control, Instrumentation, and Automation.
  o Holding four virtual meetings to evaluate IEEE Awards regarding, Dec. 2023-Feb. 2024:
    - The best lifetime research award
    - The best candidate for the Prof. Jabehdar award
    - The best candidate for the Prof. Caro Lucas award
    - The best M.Sc. thesis award
  o Holding a scientific lecture at two medical conferences regarding the use of artificial intelligence in the diagnosis of diseases
  o The presence of the representative of the specialized control assembly in the standard committee (Dr. Ali Akbar Afsalian)

• Electromagnetic and Photonic Chapter Periodical Meetings:
  o An Exceptional Lightning Research Facility in the Swiss Alps by Prof. Farhad Rachidi, Feb. 2024, (Fig. 14)
  o A Holy Grail Quest: The Concept of Stored Electromagnetic Energy by Prof. Guy A. E. Vandenbosch, Nov. 2023, (Fig. 5)

• Computer Chapter Periodical Meetings:
  o Holding two webinars on security and the legal challenges of privacy and data for 5 hours, Aug 2023.
  o Holding a soft skills training webinar by Dr. Taghi Yare for 2 hours, Dec. 2023, (Fig. 7)
  o Compilation and finalization of Dr. Anwari's award regulations and presentation of the first award this year, April 2023.
  o Compilation and finalization of regulations for computer student chapters and their approval, May. 2023.
  o Developing cooperation guidelines with institutions to carry out the project, June 2023.
  o Developing guidelines for the implementation of joint projects with the Research Institute of Communication and Information Technology, May 2023.
  o Evaluation and scoring of IEEE annual award applicants and presentation to the awards committee, Jan. 2024.
  o Evaluation of more than 10 conferences in the field of computer and information technology and presentation to the conference committee
  o Holding a "Persian text analysis in social networks" event, Oct. 2023 (Fig. 25):
The "Text Analysis in Persian Language on Social Networks" event, held at the Research Institute of ICT, aimed to boost Persian language presence online through AI tools. Organized by the ParsiAzma Lab and IEEE Iran Section, the team "StateOfTheArt@AUT" from Amirkabir University won the first prize of eighty million tomans. Addressing the challenge of Persian language processing in the digital realm, the ParsiAzma Lab, launched a year ago, focuses on utilizing the nation's academic expertise. This competition reflects their recent efforts.

- **Power Chapter Periodical Meetings:**
  - Round Table on Sustainable Electricity Supply, peak load, Feb. 2024, (Fig. 15a)
  - The 1st IEEE-Iran Section and IGMC General Meeting, AI Application in Modern Power Systems, Nov. 2024, (Fig. 15c)
  - The 2nd IEEE-Iran Section and IGMC General Meeting, Demand Side Management in Modern Power Systems, Feb. 2024, (Fig. 15d)
  - Flexible Distributed Energy Resources, Virtual webinar by Prof. Gevork B. Gharehpetian, Oct. 2023, (Fig. 3)
  - Cybersecurity and Resilience Enhancement of Smart Grids Webinar, Oct. 2023, (Fig. 15b)
  - Fault Location in a Power Network Using Time Reversal Theory Webinar

- **Electronics Chapter Periodical Meetings**

**Publications Committee**
This committee has two international magazines, which provide context to expand the section’s performance in this field. As a responsibility, this committee evaluates the current publications and expands the scope and context of the future ones.

**Young Professionals Committee**
This committee regularly performs audio clips with famous successful academics and engineers around the globe to share the keys and ideas with the younger generation. By now, the audio clips from experts from Western universities and Persian universities have been performed.

**Ethics Committee**
This committee is responsible for sharing engineering ethics and the IEEE ethics program with the students.

- As of the main activity:
  - **The First Student Ethics Competition** performed by the section:
    The first IEEE Student Ethics Competition in Iran took place on December 21st, coinciding with the Ikram Conference at the Master Jabehdar Maralani Hall, Faculty of Electrical and Computer Engineering, Technical Faculties of the University of Tehran. After the collection of team presentation files by the competition supervisors, the official opening ceremony commenced at 10 a.m. with a speech by Prof. Reza Faraji Dana, the head of the Ethics Committee of IEEE Iran Section. Teams presented their prepared materials for 10 minutes each and answered judges' questions within 5 minutes. After the presentations, judges conducted final evaluations and selected the top two teams. The closing ceremony, featuring a speech by Prof. Hossein Askarian Abyaneh, the esteemed chair of the IEEE Iran Section, concluded with the announcement of results and appreciation for the judging team, winning teams, and the competition's executive staff, Dec. 2023 (Fig. 9)

**Industry**

**Internship Opportunities and Student-Oriented Activities**

- The IEEE Iran Section elects the chair of the Industrial Relations Committee every two years. Eng. Pakravan is in charge of the 2023-2024 term, and he is currently an Ambassador for Industry in AFI.
- We have 15 internship opportunities this year, and some of them are now active as full-time employees at top companies in the country.
- Support for the Amirkabir University of Technology Co-Op project.
- The Industrial Relations Committee page is active and is available on the Iran Section website. Every piece of content related to our industry will be stored and published on our web page. Also, we refer to the published content via all sections and student branches social media to make the content available to students and the public faster and easier.
Our communication with students is through the Iran Section website, so every piece of content related to the industry will be stored and published on the Industrial Relations Committee page. Also, we have listed a place for job opportunities on Job Site, https://jobsite.ieee.org.ir/. Job Site is for those who are seeking job opportunities and also for companies that have job offers or opportunities (employers and employees).

- Supporting student activities.
- Supporting and funding student visits and trips.
- Sponsored and funded two IEEE Iran Section annual meetings.
- Holding online events or webinars for students:
  - Discover the Golden Point Webinar: with the approach of developing personal abilities in order to discover the secret of success and job satisfaction, by Dr. Saeed Saadat, Director of Tehran Institute of Technology

**Mentorship**

- Job Site is a place for those who require mentorship, have any questions, or need any help with career design and opportunities. We are trying to connect expert people (with high experience from well-known companies and trade unions, such as the Iranian Telecommunication Industries Syndicate) to individuals who are in need of consulting.
- IEEE Iran Section IRC is formed of top, well-known, and highly experienced industry individuals as well as active students and volunteers who are available to help and consult section student members in their relevant fields.

**Engagements with Companies**

- Establishing a connection between the Iran section and the Payvast monthly (the most authoritative monthly in the field of communication) and publishing a history of the IEEE Iran Section in one of its chapters
- Encourage and promote industry people and active organizations to volunteer cooperation with the IEEE Iran Section.
- Our active industry partnerships are well-known companies and trade unions in the country, which have already been mentioned in our reports; however, they are listed as follows:
  - Iranian Telecommunication Industries Syndicate
  - Paya Communication Industries
  - Mobinnet Telecommunication Company
  - Nian Electronic Co.
  - Faraz Co.
  - R&D Development Company (Teta)
  - Azmoon Keyfiat Co.
  - Karen Antennas Technology Co.
- We have six signed partnerships this year, as follows:
  - Crouse Manufacturing Industries
  - Pooyanegan Rah Saadat Co.
  - Avid Net Technology
  - https://psp.ir/power
  - Faravid Co.
  - Monenco Iran Consulting Engineers

**Partnership with Niroo Research Institute**

1) Planning and implementing training courses in the field of development and promotion of IEEE standards related to the field
2) Tavanir company activities. Conducting education-oriented courses, and holding seminars, specialized courses and educational workshops in the field
3) Development and promotion of IEEE standards related to the field of activities of Tavanir Company Monitoring and evaluation of scientific and educational activities related to IEEE standards related to the field of the company’s activities
4) Tavanir Cooperation in preparing, compiling and implementing the educational plan of the fields related to the development and promotion of IEEE standards
5) Related to the field of activities of the Tavanir Company.
6) Commitments of Tavanir Company
7) Need assessment and final approval of trainings related to IEEE standards related to the field of activities of Tavanir Company.
8) Communication of IEEE standards required by Tavanir Company in line with the development and promotion of standards. Supervision of the implementation of relevant trainings.
9) Supporting and following up on the timely implementation of training courses from the research institute.

**Partnership with Communication and Information Technology Research Institute**

According to the public relations report of the Communication and Information Technology Research Institute, in order to increase the level of cooperation in the international field as well as the optimal use of scientific and research capacities, a memorandum of cooperation was signed between the Research Institute of Communication and Information Technology and the International Society of Electrical and Electronics Engineering (IEEE) in Iran. According to this news, in this memorandum, the cooperation of the parties in the fields of education and research in order to increase the international communication of the country and also support student activities is emphasized. Dr. Razavizadeh, the head of the Research Institute of Communication and Information Technology, at the signing ceremony of this memorandum, while considering this memorandum as important and emphasizing the acceleration of the implementation of the provisions of the contract, said: Considering the international position of the IEEE Association of Iran, this memorandum will help the research institute to increase our international interactions. Also, this association can benefit from all the facilities available at the research institute for the implementation of its projects. He also emphasized student support and added that this memorandum will allow us to witness synergy in the field of student support with the cooperation of the Electrical and Electronics Engineering Association of Iran, so that this support will eventually lead to the development of the country. In the other part of the ceremony, Prof. Vahid Ahmadi, the head of the World Electrical and Electronics Engineering Association of Iran, expressed a selection of the activities of this association and how it can help the research and scientific department of the Research Institute of Communication and Information Technology and emphasized: In the IEEE Association, the Iranian section is attended by prominent scientific figures of the country, and this has caused this association to have a high capacity at the international level. He added: Today, in the scientific community of the country, international communication is of great importance, and this is an issue that has been challenged. He also added: Currently, there is a lot of potential capacity in the international section of the ICT Research Institute and the IEEE Association, which can be turned into reality with this memorandum and proper planning, and we hope that by creating a joint committee and with the presence of the representatives of the parties, it will be possible to These great capacities took an important step towards the development of the country. In the end, while appreciating the research institute's performance in supporting students, Prof. Ahmadi said: The Research Institute of Communication and Information Technology has a very good position among the scientific community of the country, including students and professors, so that all the professors and students today use this research institute. They are known as supporters who determine the policy of their projects and theses. It should be noted that the IEEE section of Iran, with a history spanning more than half a century, consists of 14 specialized committees, 58 student branches in the country's universities, and consultants and experts in the industry, which in recent years has been able to carry out scientific activities with the support of the Communications and Information Technology Research Institute. Develop your domestic and international research in all fields.

**Entrepreneurship**

- Participation of industries to request the need for training in relevant standards
- Participation of industries in the SmartData Challenge

**Events with Industry**

- Awarding two industrial awards in the 14th IEEE Iran Section Awards Ceremony, Feb 2024, (Fig. 1)
- Inviting successful entrepreneurs for specialized panels and lectures at IEEE Iran Section annual meetings and sponsored conferences.
- Supporting the booths of the IEEE Iran Section at conferences and exhibitions
- Financial support of industrial companies for IEEE Iran Section sponsored conferences, Oct 2023. (Fig. 12)
- Holding the Synergy of Industry and University Virtual Panel, The 8th Iranian International Conference on Engineering Education, Amirkabir University of Technology

**Activities done by IEEE Iran Section IRC since the last report**

- Committee report in the Q1 AFI meeting in 2023
- Sending the committee report to AFI
- Liaise with other committees and affiliated groups to increase interactions
• Holding international communication meetings in the field of industry in Region 8
• Encourage and promote industrial people and active organizations to cooperate voluntarily with the IEEE Iran Section
• Committee report for the Q4 AFI meeting (2023)
• Digital System Roadmap in Electrical Engineering and Predicting Its Future Role in Domestic and Foreign Industries Webinar

Activities since the last report

**IEEE Iran Section** has done the following main activities:

- Attending IEEE Sections Congress 2023, Ottawa, Canada, Aug. 2023
- Attending the 121st IEEE Region 8 Committee Meeting in Ottawa, Canada, Aug. 2023
- Meeting with Prof. Saifur Rahman, the former IEEE president for the Iran section on problem solving, Aug. 2023, (Fig. 26)
- Meeting with Dr. Antonio Luque, the former IEEE Region 8 Director, and presenting the IEEE Iran Section Strategic Plan
- Planning for the Iran section with the R8 strategic plan, Ottawa, Aug. 2023.
- Attending the 120th IEEE Region 8 Committee Meeting in Bucharest, Romania, Mar. 2023.
- Establishing a Planning Committee
- Establishing the IEEE Iran Section Life Member Affinity Group (LMAG)
- Planning to create a new chapter in Biomedical Engineering, 2023.
- Memorandum of agreement between the IEEE Iran section, the IEEE Turkey section, and the United Arab Emirates regarding:
  - Relationship with Industry
  - Student exchange
  - Holding a women's conference
  - Holding joint seminars and conferences
- Initial coordination for joint cooperation with Oman
- The joint session of the IEEE Iran Section with the IGMC aims to foster bilateral collaborations, Aug 2023, (Fig. 27)
- Development of activities for YPs, WiE, and the other Affinity Groups
- Participate in the development of national standards
- Communication of the student sector of the Industrial Relations Committee with the R8 committees, such as AFI
- Receive performance reports of committees
- Holding the 14th IEEE Iran Section Awards Ceremony, Feb. 2024, (Fig. 1)
- Holding the 21st Annual Meeting with the Executive Committee of the IEEE Iran Section and Student Branches’ Counselors, Feb. 2024, (Fig. 2)
- Funding awards
- Compilation of regulations for holding webinars and workshops
- Review conference regulations
- Planning for the annual ceremony
- Approve and support the Ethics Challenge Contest
- Support for conferences and workshops (Figs. 15, 18, 19, 20, 22)
- Financial support for the membership of the students
Planned activities

Our future planned activities are as follows:

- Promotion of activities in international cooperation (participation in R8 committees)
- Invite prominent international researchers to introduce their program and activities in person or online
- Holding regional and international events in Iran, (Fig. 15)
- Efforts to develop and promote science and educational centers in the country
- Promote and develop industry relations to increase the growth of technology at the national level
- Cooperation with scientific research institutions and scientific associations
- Develop and promote the level of student activities
- Increasing the number of student branches in the country to expand the student network
- Introducing and promoting national awards in the fields of education, research, student branches, and volunteer activities
- Increase IEEE membership
- Preparation of Iran Section strategic plan, action plan, and roadmap
- Development of Technical Chapters’ activities to expand the network of faculty and student members in the country

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

As we mentioned in our previous reports, we are facing the following issues:

- Our members, especially students, cannot make it, which causes a decrease in membership statistics. R8 can help us convince headquarters to set the membership fee based on our local currency.

Executive Team

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The 14th IEEE Iran Section Awards Ceremony

In the beginning, the host welcomed all prestigious guests form around the world and started the session officially and Prof. Vincenzo Piuri, director of R8 serving as the opening speaker of this event, expressed his appreciation for the initiatives undertaken by the Iran section. The IEEE Iran Section 2023-2024 Board of Directors was introduced to the audience through a video clip. It was time to introduce the IEEE Iran section awards, and a video clip to give specific details about each one was played. Then the IEEE Iran Section Awards and Recognition Committee Chair started to give information about nominees for the 2023 awards.

List of awards and recipients is as follows:

- **Lifetime Teaching Award**: Mehdi Karrari, from Amir Kabir University of Technology
- **Lifetime Research Award**: Majid Sanaye Pasand, from University of Tehran
The 122th IEEE Region 8 Committee Meeting
Vienna, Austria, 2–3 March 2024

- **Prof. Hakkak Award**: Babak Hossein Khalaj, for Sharif University of Technology
- **Prof. Jabeedhar Award**: Masoud Shafiee, from Sharif University of Technology
- **Prof. Caro Lucas Award**: Majid Nili Ahmad Abadi, from the University of Tehran
- **Prof. Fakhraei Award**: Omid Shaoei, from the University of Tehran
- **Prof. Anvari Award**: Mansour Jamzad from Sharif University of Technology
- **Lifetime Industry Achievement Award**: Hossein Mohseni, from Sharif University of Technology
- **Top Entrepreneurs Award**: Esmail Sanaie, from Sharif University of Technology
- **Outstanding Student Branch Counselor Award**: Saeid Akhavan from the University of Tehran
- **Women in Engineering Award**: Bahare Akhabari, from K. N. Toosi University
- **Young Researcher Award**: Armin Salimi Badr, from Shahid Beheshti University
- **Best Ph.D. Thesis Award**: Zohreh Sadat Miripour, from the University of Tehran
- **Best M.Sc. Thesis Award**: Danesh Amani, from Tarbiat Modares University
- **Best B.Sc. Thesis Award**: Fateme Zare, from K. N. Toosi University
- **Best Student Branch Award**: Ferdowsi University, Counselor: Dr. Majedi

For the last, the final words were from Eng. Mojgan Azizi, the chair of the IEEE Iran Section Web Development Committee and the conductor of the 14th IEEE Iran Section Awards Ceremony Executive Team. She admired the relentless and unparalleled efforts of team members and noted that there would not have been such a fabulous event without them. Finally, a memorable group photo was taken with all the prestigious guests.
Fig. 1. The 14th IEEE Iran Section Awards Ceremony
The 122nd IEEE Region 8 Committee Meeting
Vienna, Austria, 2–3 March 2024

http://march-2024.ieeer8.org/

Fig. 2. Student Branches General Meeting

Fig. 3. A Technical Webinar by Prog. Gharehpetian

Fig. 4. Technical Lectures hosted by IEEE Iran Section
A Holy Grail Quest: The Concept of Stored Electromagnetic Energy

**Professor Guy A. E. Vandenbosh**
Guy A. E. Vandenbosh received the M.S. and Ph.D. degrees in Electrical Engineering from the KU Leuven, Belgium, in 1985 and 1991, respectively. Since 1993, he has been a Lecturer, and since 2005, a Full Professor at the same university. His research interests are in the area of electromagnetics, computational electromagnetics, phased arrays and circuits, nano-electromagnetics, RF radiation, EMC, and bio-electromagnetics. He has published over 400 papers in international journals and has led to ca. 435 papers in international conferences. In the period 1999-2004, he was vice-chairman, in the period 2005-2009 secretary, and in the period 2010-2017 chairman of the IEEE Benelux Chapter on Antennas and Propagation. In the period 2002-2004 he was secretary of the IEEE Benelux Chapter on EMC. In 2023, he received the “Antenna Award”, a lifetime achievement award from the ETSAP. Guy is a fellow of the IEEE.

**Date:** November 7, 2023 (16 Aban 1402)

**Time:** 16:00 - 17:30 Tehran Time (13:30 - 15 CET)

**Abstract**
In this talk, the quest for the “ideal” expression for the energy stored in an electric circuit is overviewed. First, several forms of power and energy that have been defined and used in electromagnetics over the last 100 years are briefly summarized, and their most important characteristics are discussed. In a first step, frequency-domain is considered. Starting from two power balance equations, stored field-based reactive energy is formally defined and compared to the numerous “definitions” already available in literature. Then the concept of recoverable energy is introduced. The differences with reactive energy are pointed out. Moving to time domain, it is possible to write the equations expressing the concept of reactive energy. It is shown that recoverable energy is just a special case for a specific current flowing in time. Illustrative examples are given where these energies can be used to solve practical problems. The paper clearly illustrates that the concept of stored electromagnetic energy is still not well understood when a realist is involved.

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**Fig. 5. Technical Workshop on Electromagnetic Energy**

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**Dr. Reza Abbasi-Ad**
Dr. Abbasi-Ad is an Associate Professor in the Department of Neurology and the Department of Bioengineering and Therapeutic Sciences at UCSF. He is a Wellcome Trust Investigator and serves as the director of Data Analytics and Visualization at the Weill Institute for Neuroscience at UCSF. He received his PhD and MSc in Electrical Engineering and Computer Sciences at UC Berkeley in 2010. He is the recipient of the Eli Jury Award from UC Berkeley, in 2016, the Mary J. Kohlfield Fellowship in Memory of M.A. Jastro Award from UC Berkeley Graduate Division in 2016, the Excellence Award in Biomedical Engineering from Shargh University of Technology in 2013, and the Excellence Award in Electrical Engineering from Tehran Polytechnic in 2010. He is currently a core member at the UCSC Neuroscape Lab, Rocker Computational Health Sciences Institute, Koll Institute for Fundamental Neuroscience, UC Berkeley/UCSF Biomechanical and Computational Precision Health, and UCSC Brainomics graduate groups. His research is supported through funding from NIH National Institute of Mental Health, NIH National Institute of Aging, Well Neurouabi, Sander Program for Breakthrough in Biomedical Research, UCSF Innovation Ventures, and Google.

**Date:** December 4, 2023 (13 Azar 1402)

**Time:** 10:00 - 12:00

**Venue:** Dr. Abedi Conference Hall, 3rd Floor Aborayan Building, Amirkabir University of Technology

**Abstract**
In this talk, I will outline our quest to investigate the role of advanced computational tools in understanding brain functions and its related disorders. More specifically, I will present solutions based on interpretable machine learning to (1) integrate multi-modal spatial-temporal data collected from the brain (and body) in both microscopic and macroscopic resolutions; (2) predict functions of biological systems in different resolutions; and (3) determine the functional differences across neurological disorders.

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**Fig. 6. Event of Artificial Intelligence in Fashion**

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**Fig. 7. Technical Workshop on Machine Learning**
Towards Decarbonized Energy Systems: The Key Role of Energy Storage

Speaker:

Young Professionals Committee events

Fig. 8.
The IEEE Iran Section
Student Ethics Competition

Challenges IEEE Iran Section student and graduate student members to do the right thing!

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- Discuss & analyze ethical concepts
- Apply ethical concepts to professional situations
- Present findings to an ethical panel

More Information:
- www.ieee.org/ir
- https://icron.ir/Soc2023
- T.me/IEEE_Ethics

Event Information:
- Date: 21 December 2023
- Location: University of Tehran
- Registration deadline: Monday, 23 October 2023

http://march-2024.ieeer8.org/
Vienna, Austria, 2–3 March 2024
Data-Driven Control and Its Applications

Professor Ali Reza Karimi
Ali Reza Karimi is an Assistant Professor of Electrical Engineering, Department of Electrical Engineering, Amirkabir University of Technology. He is also a Ph.D. in Control Engineering, Faculty of Electrical Engineering, University of Tehran, 2013.

Abstract:
As computational power and sensor technology continue to improve, data-driven control methods are emerging as promising alternatives to traditional model-based control, especially for systems with complex or uncertain dynamics. Data-driven control methods directly optimize control performance based on real-time data, bypassing the two-step process of model identification and model-based controller design. This presentation focuses on leveraging frequency-domain data to design fixed-structure controllers with H∞-two and H2-infinity performance for generalized systems represented by Linear Fractional Representation (LFR) through convex optimization. This method can be used to design centralized, decentralized, and distributed controllers for both continuous and discrete-time systems. The effectiveness of the proposed approach is demonstrated through applications in robust passivity-based controller design for grid-connected converters and data-driven position-dependent controller design for Cartesian robots.

http://march-2024.ieeer8.org/
Vienna, Austria, 2–3 March 2024

Fig. 9. Ethics Challenges

Fig. 10. Workshop on Data-Driven Control
Fig. 11. WIE Fall Meeting
Fig. 12. Section Support to Attend GITEX 2023

Fig. 13. WIE Entrepreneurship Webinar

Fig. 14. Electricity Research in Switzerland Alp
Fig. 15. Session and IGMC General Meeting
The 122th IEEE Region 8 Committee Meeting
http://march-2024.ieeer8.org/
Vienna, Austria, 2–3 March 2024

Fig. 16. WIE Professional Development

(a)
(b)

Fig. 17. WIE Award Recipient of the Section

Fig. 18. ICWR2024 Conference
The 122th IEEE Region 8 Committee Meeting
Vienna, Austria, 2–3 March 2024

Fig. 19. ICTEM2024

Fig. 20. ICRoM 2023 Conference
Fig. 21. Cooperation in holding student workshops

Fig. 22. 32nd International Conference on Electrical Engineering

Fig. 23. “Economic, Artistic, and Research Facilitating Ideas based on Generative Artificial Intelligence for Women”, Events
The 122nd IEEE Region 8 Committee Meeting
Vienna, Austria, 2–3 March 2024

Fig. 24. Generative AI for Women (Supported by the Ministry of ICT), December 2023

Fig. 25. Persian text analysis in social networks event

Fig. 26 Meeting with Prof. Saifur Rahman, IEEE Sections Congress 2023, Ottawa
Fig. 27. IEEE Iran Section joins hands with IGMC for bilateral collaboration development