2023 | By: Yasser M. Madany Chair of the IEEE Egypt Section Chapter, AP03, MTT17 – Alexandria (CH08903)



International Competition on Smart Innovation Technologies (IC-SIT'2023)

July 16–17, 2023, Alexandria, Egypt









IC-SIT'2023 Competition Report

About The IC-SIT'2023

The IEEE Egypt Section Chapter, AP03, MTT17 – Alexandria, CH08903 (*IEEE Egypt AP-S / MTT-S Joint Chapter*), Alexandria, Egypt, organizes the International Competition on Smart Innovation Technologies (IC-SIT). Considering global mass COVID-19 vaccination campaigns, it is scheduled for July 16–17, 2023, in the High Institute of Engineering and Technology, King Marriott, Alexandria, Egypt, in a hybrid format (attend or online). The IEEE AP-S and MTT-S societies are providing technical support for the competition.

The IC-SIT competition aims to stimulate students' interests, excite them, and enable them to understand and experience the role of engineering in scientific and engineering innovation. This is an annual event where high school and college students can work with engineering and business professionals to design or invent a product to show off.

The competition will culminate in an exhibition of project displays, final judging, and awards presentation in Alexandria, Egypt. The competition will be divided into levels and categories. The competition website, IC-SIT'2023 Competition, has the most recent updates for the competition details of all the activities.

Benefits of IC-SIT competition

In fact, the IC-SIT competition provides much-needed structure to those who are just getting started in science, technology, and engineering, while also serving as a skill-building opportunity for those who are more advanced in smart technologies, antenna, microwave, electromagnetics, coding, programming, design development, robotics, sensors and much more.

The advantages of the IC-SIT competition include opportunities for students to think critically and work autonomously in some cases or to collaborate in teams in others, thereby strengthening their collaborative and social skills. Furthermore, for both newcomers to IC-SIT and advanced students, the right competition can provide a great opportunity to enhance their vision and practical practice.

The IC-SIT competition, like most competitions, especially for online and virtual events, can offer prizes as well as a way for participants to earn money from home.

The IC-SIT competition allows anyone living anywhere in the world to present and develop their experience on a global scale. Aside from having fun, all participants can expect to solve real-world problems, face challenges that require hands-on participation, and think outside the box.

An amazing session will be held by IEEE Egypt WIE for promoting women engineers and scientists, and inspiring girls in secondary high schools and universities to follow their academic interests in a career in STEM.

Who can participate in this competition?

- The IC-SIT competition has two levels for both *international and national competitors*:
 * Secondary Schools (Government-STEM-Private-Technological).
 - * Colleges and Universities (Government-National-Private-Technological).
- Individuals or small groups of up to five students can form teams. All team members must attend the same high school, college, or university.
- Each school, college, or university may allow up to ten teams to participate.
- The student(s) must compete in their respective category based on their age and the level/class they are currently attending in the year of the competition.

Competition Timeline

- 4 March 2023
 Deadline for Registration and Proposal Submission
- 20 March 2023 Preliminary Selection Notification
- **30 April 2023** Deadline for Project File Collection
- 10 May 2023
 Project Submission Deadline Revision
- 20 June 2023
 Level Acceptance Notification
- **10 July 2023** Notification of Final Judging
- 16-17 July 2023 Ceremony of Awards

Challenge Areas

- Electrical and electronic engineering.
- Microwave engineering.
- Computer science and engineering.
- Aerospace engineering.
- Computer programming.
- Computing / mathematics / statistics.
- Microprocessor and control systems.
- Communication / encryption / coding.
- Astronomy and physics.
- Biochemistry and Chemical engineering.
- Integrated electronic circuitry.
- Internet / IOT / networks.
- Fiber optics / lasers / LEDs.
- Artificial satellites.
- Nanotechnology.
- Virtual / augmented reality.
- Navigation and localization.
- Radar and their applications.
- Mechatronics and robotics.
- Computer network architecture / software development.
- Solar / wind / renewable energy.
- Sound detection / sonar / acoustics.
- Power transmission and distribution.
- Information technology and security.
- Transistor technologies.
- Wearable technology.
- Navigation and guidance.
- Wireless and mobile communications / networks.
- Artificial intelligence and biomedical engineering.

Eligibility

All team members must be at least 16 years old. Multiple teams can exist in secondary schools, colleges, and universities. Before registering, it is up to each team to find one eligible academic advisor (see below) who will oversee the team during the competition.

A team must have a confirmed advisor to rank in the competition. When a team registers, an email is sent to the designated advisor. The advisor can then accept or decline the request to advise that team. If the advisor ignores the email, the advisor's status remains unconfirmed. At the time of the competition, all teams whose academic advisor is still unconfirmed or declined will be ineligible for

prizes or participation certificates, even if they are able to participate. Furthermore, their competition ranking will not be included in the final rankings. Before the competition, it is the team leader's job to check on the status of the advisor.

Team members must solve and finish the problems without the assistance of others or prewritten code. Please keep in mind that the competition's goal and spirit is for students, not others, to solve a problem. People acting as advisors must limit their support and make no contributions. Work by an advisor on behalf of a competitor is never permitted.

The Sponsor reserves the right, in its sole discretion, to examine all submissions for plagiarism and disqualify any team whose work is not their own. Where prohibited by law, this offer is void. Entrants understand that the sponsor reserves the right to substitute or withdraw prizes as required by law.

Advisors

A consultant should be assigned to each team to oversee competition activities. This year, both teams and advisors collaborated in-person or remotely while competing.

Advisors should be at least experienced engineers, preferably with master's or Ph.D. degrees. Although neither the student nor the graduate student can serve as advisors, they are encouraged to participate in the competition as team members. During the registration process, advisory information is required.

Scoring Criteria

•	Innovation	(10 points)
•	Creativity / Originality	— (10 points)
•	Precision in Idea —————————————————	— (10 points)
•	Overall Composition	— (10 points)
•	Distinctiveness in Conceptualization —————————	— (10 points)
•	Creativity in Expression ————————————————————	— (10 points)
•	Technical Organization ————————————————————	— (10 points)
•	Inspirational Power ——	— (5 points)
•	Whether the project is in line with the theme	— (5 points)
•	Brand Recall Ability ————	—— (5 points)
•	Project Problem Difficulty —————————————————————	— (15 points)

Use of Entries

There will be no entries returned. IC-SIT acquires ownership of all entries. By entering, all participants agree that IC-SIT can use all of the information they give in their entries without credit, review, or payment.

All participants agree to release and hold IC-SIT, its representatives, and agents harmless from any claim or cause of action arising from their participation in the competition. By entering this contest, participants understand and agree that any personal information they give will be kept in accordance with the sponsor's privacy policies.

The IC-SIT'2023 Competition Phases

The IC-SIT'2023 Competition Phases



Phase I:

- Aim: Register and upload a project or innovation proposal.
- **Participants:** 233 project or innovation proposals from universities and 90 project or innovation proposals from schools, for a total of 313 participants.
- **Result:** It is in the form accept or reject.

Phase II:

- Aim: Upload the full project or innovation document.
- **Participants (**the qualifiers from phase I): 76 project or innovation proposals from universities and 34 project or innovation proposals from schools, for a total of 110 participants.
- **Result:** By TPC using scoring criteria (100 points).

Phase III:

- Aim: Upload the project or innovation video.
- **Participants (**the winners from phase II**):** 56 project or innovation proposals from universities and 22 project or innovation proposals from schools, for a total of 77 participants.
- Result: By a group of the TPC with 10 points of remarks.

Final Phase:

- Aim: Evaluation of the practical part of the project or innovation.
- **Participants (**the awards from phase III**):** 45 project or innovation proposals from universities and 10 project or innovation proposals from schools, for a total of 55 participants.
- **Result:** By a group of the TPC with 20 points of remarks.

Technical Program Committee (TPC)

- Hossam A. Abdelfattah, Dean of Faculty of Engineering, Cairo University
- Ashraf Abdelmoneim Khalaf, Head of Department of Electrical Eng., Faculty of Engineering, Minia University
- **Moawad Ibrahem Moawad Dessouky**, Professor, Department of Electronics and Electrical Communication Engineering, Faculty of Electronic Engineering, Menofia University
- **Saeed Hassan Ibrahim**, Vice Dean for Learning and Students Affairs, Faculty of Artificial Intelligence, Egyptian Russian University
- Ahmed Elsherbini, Prof., Faculty of Engineering, Cairo University
- Abdelhamid A Shaalan, Prof in Communication Faculty of Engineering, Zagazig University
- Saber Helmy Zainud-Deen, Prof. in Faculty of Electronic Eng., Menoufia University
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- Mohamed Tamazin, Safran Company Expert, Safran Electronics and Defense, Canada
- **Tamer Moneir Nassef**, Vice-Dean, Faculty of Engineering, Misr University for Science and Technology, MUST

- Maha Elsabrouty, Egypt-Japan University of Science and Technology
- Sally Mohamed Elghamrawy, Vice Dean of Community Service and Environmental Affairs, Misr Higher Institute for Engineering and Technology
- Ayman El-Sayed Omera, Dean of Faculty of Electronics Eng., Menoufia University Sherin Mostafa Youssef, Chair of IEEE WIE Egypt Section, Head of Computer Engineering Departments, Arab Academy for Science and Technology
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- Abdel Fattah Attia Heliel, Dean of Faculty of Engineering, Kafrelsheikh University
- Karim Seddik, Prof., American University in Cairo
- Yousry S. Elgamal, Arab Academy for Science, Technology, and Maritime Transport, AASTMT
- Ayman Adel Abdel Hamid, Prof. Dr., Arab Academy for Science, Technology & Maritime Transport, College of Computing, and Information Technology
- Waheed Sabry, Dean of the High Institute of Engineering and Technology in King Marriott, Alexandria
- Ahmed Abdelwahab Mohamed Elmarady, Ministry of Civil Aviation
- Osama Khalil, Prof. Dr., PSATRI, the Kingdom of Saudi Arabia (KSA)
- **Mervat El Seddek**, Associate Professor Communications Engineering at Misr Higher Institute of Engineering and Technology
- Mustafa Elnainay, Prof., Alamein International University
- Hesham Sayed Kamel Ali, Canadian International College Engineering Institute
- **Reham Ahmed Ahmed Elmayet**, Assistant Professor, NTI, MCIT. National Telecommunication Institute (NTI), MCIT
- **Mona Mohamed Nasr**, Professor & Digital Transformation Consultant, Faculty of Computers and Artificial Intelligence
- Tamer Omar Diab, Faculty of Engineering, Banha University
- Darwish Abd El Aziz Mohamed Abd El Maksoud, Professor of Antennas and Electromagnetic Wave Propagation, EC Dept., Engineering College, AAST
- **Mohamed Abdelfattah Mohamed Elsisy**, Associate Professor, Department of Basic Engineering Sciences, Faculty of Engineering, Benha University
- Reda Elsheshtawy Mohamed, Alexandria Higher Institute of Engineering & Technology
- **Omar M Elzeki**, Assistant Professor, Computer Science Mansoura University, New Mansoura University
- **Roshdy Abolazayem Abdelrassoul**, Arab Academy for Science and Technology College Of Engineering and Technology
- Heba Youssef Soliman, Port Said University
- Adel Abdel Aziz Mahgoub, Adjunct Lecturer, Air Defense College
- Ahmed Hanae Khalil Ali Kassem, Lecturer In Mechatronics Engineering Department, AIET
- Mohamed Elhefnawy, Faculty of Engineering, October 6 University
- Walid Ali Raslan, Assistant Professor at Faculty of Engineering Delta University For Science and Technology
- Amal Saleh Mohamed Soliman, Professor Assistance of Chemistry at Alexandria Higher Institute For Engineering And Technology, AIET

- **Samy Ghoniemy**, Professor Faculty of Informatics and Computer Science, The British University In Egypt
- Wageeh Ahmed Abdelfattah El-Askary, Professor Alexandria Higher Institute for Engineering and Technology
- Amna Said Mohamed Ali Elansary, Alexandria Higher Institute for Engineering and Technology
- Hasnaa Mohamed El-Areash, Alexandria Higher Institute of Engineering & Technology
- Amira Elbatouty, Alexandria Higher Institute for Engineering and Technology
- Yousra Hamdy Farid, Alexandria Higher Institute for Engineering and Technology, Chemical Engineering
- **Mohamed Ebrahim Abdou Elbouridy**, AIET Alexandria Higher Institute of Engineering and Technology
- Hatem Awad Aly Khater, Egypt Faculty of Engineering, Hours University, New Damietta
- Mohamed Abdel-Hamid El-Shimy, Alexandria University
- Nehal Fawzy, Mansoura University
- Amgad A. Salama, The Egyptian Research and Development Center
- Gamal M. Mahmoud, Pharos University in Alexandria
- Naglaa F. Elgzar, Exploration Center for Science and Technology
- Mostafa Nasr M. Nasr, Mech. Power Eng., Faculty of Eng., Menoufia University, Shebin Elkom, Egypt
- **Moustapha Ibrahim Ahmed Salem**, Prof of Chemical Engineering Faculty Alexandria University
- Safa Ahmed Elaskary, Technology of Biomedical Equipment ,Department Pharos University
- Mohamed Fathy Abo Sree, Associate Professor, AASTMT, Cairo Branch
- Adel Ali Mohamed Abou El-Ela, Prof of Electrical Engineering Department, Faculty of Engineering, Menoufia University
- Hazem Zakareya Fahim Kamel, Former Deputy Commandant for PGS and Research, Pensioner Maj. Gen., Military Technical College
- Abdallah Fathy Mohamed, Germain University in Egypt, GUC
- Mohammed Al Amir Atalla, Ass Prof., AIET Alexandria-Higher Institute Engineering & Technology
- **Mohamed Maher Ata Mohamed**, Assistant Professor, Misr Higher Institute for Engineering and Technology, Mansoura
- Mohamed Fouad, Prof., Egypt Faculty of Eng., Zagazig University
- Mohamed I. Badawi, Assoc. Prof., Pharos University in Alexandria
- **Tarek Said Mohamed Negm**, Electrical Engineering Department, Faculty of Engineering, Alexandria University
- Mohamed Abd El Latif Moawad, Air Defense College, Alexandria University
- **Mohamed Aly Ibrahim**, Assistant Professor, Faculty of Engineering, Mechatronics Department, October 6 University
- Mohab Gaber, Enavy R & D Center
- Samy Hassan Darwish, Faculty of Engineering, Pharos University, Alexandria
- Rehab Mahmoud Ibrahim, Nile Higher Institute for Engineering and Technology

- Abdelazeem Mohamed Abdelwahab, Asst. Prof., High Institute of Basic and Applied Science, AAST
- Amr Abdelfatah Ahmed, Computer Engineering Department, Alexandria Higher Institute of Engineering and Technology
- **Mustafa M. Abd Elnaby**, Electronics and Communication Department, Tanta University College of Engineering
- **Mohamed Salah**, Associate Professor, Department of Mathematical and Engineering Physics, Faculty of Engineering, Alexandria University
- Mohamed Sanad, Prof., Faculty of Engineering, Cairo University
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- Mohamed Misbah Elkhatib, Prof., Military Technical College
- Ahmed Said Hassan Eltrass, Faculty of Engineering, Alexandria University
- Amr Hussein Hussein Abdullah, Electronics and Electrical Communication Engineering, Faculty of Engineering, Tanta University
- **Mohamed Saeed Mohamed Darweesh**, Associate Professor and IEEE YP Egypt Chairman, Nile University
- Ahmed Abdallah Mohamed, Professor Emeritus, Faculty of Engineering, Menofia University
- Abdelrahman Mohamed El-Akhdar, Faculty of Engineering, Ahram Canadian University
- Hanaa Salem Mohamed Salem Marie, Associate Prof., Faculty of Engineering, Delta University For Science and Technology
- Wageda Ibrahim Shaban, Benha Faculty of Engineering
- Mohamed Hakam, Faculty of Engineering, Alexandria University
- **Bahaa Mahmoud Ibrahim Younes**, Assistant Professor, Electronics and Communications Engineering Department, Misr Higher Institute for Engineering and Technology
- Yousry Mohammed AbdulAzeem, Computer Engineering department, Misr Higher Institute for Engineering and Technology in Mansoura
- **Rania Hamdy Elabd**, Electronic and Communication Dept., Higher Institute of Engineering and Technology in New Damietta, Egypt
- Ahmed Abdelhafeez Ibrahim, October 6th University, Egypt
- Ahmed Mohamed Ragab Attia, Benha University Innovation Easy Gate Company LLC.
- Hossam El-Din Moustafa, Faculty of Engineering Mansoura University.
- Elmahdy Maree Ameen Elshobaky, Misr Higher Institute for Engineering and Technology, and Zewail City for Science, Technology, and Innovations.
- Yasser Hamed Ahmed Alawady, Computer Engineering Department, Misr Higher Institute for Engineering and Technology in Mansoura
- **Mohamed Ali Abdelrahman,** Head of the Electronic Engineering Department of Higher Institute for Engineering and Technology, Manzala, Egypt
- Sherif Samir Ahmed Elbadawy, Air Defense College, Alexandria, Egypt

Prizes

All active IC-SIT competitors will receive an IEEE Egypt AP-S/MTT-S Joint Chapter certificate as well as a trophy. An "active participant" is defined as a team that makes a reasonable attempt to solve a problem at the sole discretion of the sponsor. Special certificate awards will also be presented to the girls' teams in secondary high schools and universities with project ideas serving women and childhood tracks.

University's Prizes:

- 1st Place: 7000 Egyptian pounds (230 USD).
- 2nd Place: 5000 Egyptian pounds (165 USD).
- 3rd Place: 3000 Egyptian pounds (100 USD).

and IEEE Egypt AP-S/MTT-S Joint Chapter Trophy.

School's Prizes:

- 1st Place: 3000 Egyptian pounds (100 USD).
- 2nd Place: 2500 Egyptian pounds (80 USD).
- 3rd Place: 2000 Egyptian pounds (65 USD).

and IEEE Egypt AP-S/MTT-S Joint Chapter Trophy.

IC-SIT'2023 Participation Entities

The participation entities in the International Competition on Smart Innovation Technologies (IC-SIT'2023), with a total of (313) world-wide projects and innovations.

College or Institute, University List:

- Mechanical Department, Faculty of Engineering, Alexandria University
- Biomedical Engineering Department, Faculty of Engineering, Mansoura University, Dakahlia
- Alexandria Higher Institute of Engineering and Technology
- El-Shorouk Academy
- Misr Higher Institute for Commerce & Computers in Mansoura
- Higher Institute of Engineering, El-Shorouk Academy
- Misr Higher Institute of Engineering and Technology in Mansoura
- Faculty of Computers and Artificial Intelligence, Benha
- Cairo University
- Egypt Japan University for Science and Technology, New Burj Al-Arab, Alexandria
- Biomedical Engineering, Mansoura University
- Faculty of Computers and Informatics, Zagazig University, Sharqia

- Faculty of Computers and Artificial Intelligence Cairo University
- Higher Institute of Engineering and Technology in New Damietta
- Faculty of Engineering, Egypt Japan University
- D. Goenka University, India
- Faculty of Engineering, Alexandria University
- Delta University for Science and Technology
- Damietta University
- Harare Institute of Technology, Zimbabwe
- Misr University for Science and Technology
- Higher Obour Institutes
- Faculty of Engineering Al-Azhar University
- Kafr-Elshiekh University
- Computer Science, Arab Academy for Science, Technology, AAST, Smart-Village
- Mansoura University
- The Higher Institute of Engineering and Technology in El-Mahalla El-Kubra
- Higher Technology Institute of Engineering 10th of Ramadan
- Department of Electronics and Communications Engineering, Faculty Of Engineering, Delta University For Science And Technology
- Faculty of Engineering, Menoufia University
- Arab Academy for Science, Technology, and Maritime Transportation
- Misr Higher Institute for Engineering and Technology Academy
- Faculty of Computers and Information, Zagazig University
- Alexandria Higher Institute of Engineering and Technology
- Sri Sairam Institute of Technology, India
- Communication and Electronics, High Engineering Institute, El-Shorouk Academy
- Pharos University in Alexandria, Egypt
- Modern University for Technology & Information.



School, Education Directorate, Governorate List:

- Dakahlia STEM High School, Belqas Education Directorate, Dakahlia
- STEM 6th Of October High School for Boys
- EI-Fayoum STEM School
- Obour STEM School, Obour Education Directorate, Qaliubya
- Alexandria STEM School, Burj Al-Arab, Alexandria
- Dakahlia STEM School, Gamsa, Egypt
- El Shahid Ali Khater Language School Alexandria, Egypt
- Luxor STEM School, Luxor, Luxor
- Qena STEM School
- El-Motaheda 2 Language School
- Sharkia STEM School, Zagazig, Sharkia
- Smk (L) Methodist Sentul, Kuala Lumpur, Malaysia
- STEM KFS High School
- Gharbiya STEM School
- Sohag STEM School
- Alshahid Mustafa Ali Abdul Rahman School, Tanta Governorate
- Alexandria School
- El Nel School, Beni Suef
- El-Sadat STEM School
- Elmalab High School, Dakahliya
- Mohamed Zahran Language Schools, Sharq Directorate, Alexandria Governorate



The IC-SIT'2023 Exhibition and Ceremony Program

International Competition on Smart Innovation Technologies (IC-SIT'2023) EXHIBITION and CEREMONY PROGRAM



(The Main Hall)

Competition Manager

12:30 - 1:00 Coffee Break and Snack

2:00 - 3:30 Announcing The Competition Results and Handing Over Certificates and Trophies, including WIE

(The Main Hall)

3:35 - 4:00 Republican Peace & Commemorative Photos (Success Partners, Guests, and Winners)



(The Main Hall)

12:15 - 12:30 A Promo Video About The **IC-SIT'2023** Competition

(The Main Hall)

1:00 - 2:00 The Guests Pass Through The Exhibition of **Projects and Innovations From** The IC-SIT'2023 Competition

(Competition Exhibition)

3:30 - 3:35 Speech of The Guest of Honor at The Exhibition and Ceremony of the IC-SIT'2023 Competition

(The Main Hall)



Attendees of the IC-SIT'2023 Competition

Exhibition and Ceremony

- IEEE Member Attendance: 40 persons
- Guest Attendance: 315 persons
- Total Attendance: 355 persons

IC-SIT'2023 Competition Expenses

The total cost of implementing the IC-SIT'2023 competition is **(138,767.26) Egyptian pounds**, equivalent to **(4491.79) US dollars**. The **distribution of expenses paid is as follows**:

- King Marriott Academy (51,300.00) Egyptian pounds (SPONSOR).
- SCGRS Technological (29,100.00) Egyptian pounds (SPONSOR).
- Chair of the IEEE Egypt Section Chapter, AP03, MTT17 Alexandria (58,367.26) Egyptian pounds.

Useful Links

IC-SIT'2023 Competition website: https://r8.ieee.org/egypt-apmtt/ic-sit-competition/

News and Announcements: https://r8.ieee.org/egypt-apmtt/about-and-news-2/

Participants Information: https://r8.ieee.org/egypt-apmtt/ic-sit-competition-participants/

Rules and TPC: https://r8.ieee.org/egypt-apmtt/rules-and-tpc/

Stages and Phases Results: https://r8.ieee.org/egypt-apmtt/ic-sit2023/

IC-SIT'2023 Exhibition and Ceremony Video Links:

https://www.youtube.com/watch?v=s6WA90KIvCo

https://www.youtube.com/watch?v=f0znsMPU3gw

Sincerely,

Asst. Prof. Yasser M. Madany Senior, IEEE Member URSI Senior Member Founder and Chair of the IEEE Egypt AP-S / MTT-S Joint Chapter IC-CIT'2023 Competition Manager

The IC-SIT'2023 Golden Sponsorship





The IC-SIT'2023 Technical Cosponsor

