



IEEE STUDENT BRANCH

GOVERNMENT ENGINEERING COLLEGE

BARTON HILL, TRIVANDRUM 695 035

ANNUAL REPORT 2023

This report includes all activities in the Student Branch from January 2023 until December 2023.

1. **Annual General Body Meeting 2023:** The torch was passed from the previous Executive Committee to the newly selected Executive Committee. Awards were presented to outstanding volunteers and SBC's. **Date:** 05/01/2023 **Participants:** 130

IEEE Student Branch GEC Barton Hill Trivandrum

1. **Contest: Astrea** - A quiz competition held as part of Science Week '23 revolving around the topic Space Exploration. The competition took place on Quizizz. **Date:** 15/03/2023. **Participants:** 165 (IEEE Members: 80, Non-IEEE Members: 85)



2. **Contest: Case Clash** - A debate competition organized as part of Science Week '23 test contestants' critical thinking and thinking skills over Google Meet. **Date:** 17/03/2023. **Participants:** 42 (IEEE Members: 26, Non-IEEE Members: 16).

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3. **Contest: Pixel Perfect #1** - A 3 day design competition on Canva to encourage creative poster designing. **Date:** 10/04/2023 - 12/04/2023. **Participants:** 49 (IEEE Members: 32, Non-IEEE Members: 17)



4. **Contest: Triwizard Tournament** - A Harry Potter themed treasure hunt held in the grounds of Government Engineering College, Barton Hill, Trivandrum to challenge the critical thinking and teamwork skills of the participants and to introduce the students to the IEEE Puzzlers community. **Date:** 20/04/2023. **Participants:** 24 (IEEE Members:12 , Non-IEEE Members:12).



5. **Contest: Pixel Perfect #2** - The second iteration of the 3 day design competition was held over 3 days on Canva. **Date:** 10/05/2023 - 12/05/2023. **Participants:** 30 (IEEE Members: 21 , Non-IEEE Members: 9)



6. **STEP '23:** Student Transition and Elevation Partnership held in collaboration with **IEEE Kerala Young Professionals Affinity Group** over 3 days to assist final year undergraduate students in their transition from academia to industry. The first 2 days were held in online mode and the 3rd day was held offline in the GECBH campus. **Date:** 24/05/2023-26/05/2023. **Participants:** 80 (IEEE Members: 46 , Non-IEEE Members: 34)
 - a. Inauguration: The first day of STEP'23 was held online, where Mr. Thomas Coughlin, President Elect of IEEE for the year 2023 officially inaugurated the event.
 - b. Webinar: During the second day of STEP'23, two online webinars were conducted on 'Open Source is the Next Best Career' and 'From concept to unicorn: Navigating the Startup Journey'. The speakers were Mr. Navaneeth S,

Research Assistant, ICFOSS and Mr. Sabeer Ali, Innovation Fellow, ICFOSS for the first session and Mr. Nikky Kumar Jha, Co founder at Saptkrishi, Shark Tank India Participant for the second session. .

- c. The third day of STEP'23 was conducted offline at Government Engineering College, Barton Hill, Thiruvananthapuram. There were a series of three talks as well as a Workshop on Team Building. The event ended with a Escape Room competition to engage the participants.



- 7. **Contest: Project Spotlight:** Project Spotlight was a Project poster presentation contest and expo conducted in collaboration with the Department of Information and Technology GEC Barton Hill, Trivandrum on June 19, 2023. The event was a poster presentation of projects by the final year students which was evaluated by two industrial experts, Mr. Shainu P.S who is an Associate Technical Architect at Flytxt and Ms. Farzana Ahmed who works as a Delivery Manager with more than 20 years of experience in the industry. **Date:** 19/06/2023 **Participants:** 29 (IEEE Members: 12, Non-IEEE Members: 17.)



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8. **Contest: Resume Revise:** This was an event which aimed at improving the resumes of the participants by getting it reviewed by seasoned professionals and thereby making them ready for potential job opportunities and campus placements. **Date:** 26/07/2023 - 31/09/23 **Participants:** 30 (IEEE Members: 17, Non-IEEE Members: 13.)



9. **Contest: The Kick Off 4.0:** The Kick Off 4.0, hosted from September 22, 2023 onwards, was exclusively designed for first-year students at GEC Barton Hill. This event spanned several days and consisted of five tasks, aimed at introducing students to the world of technology and providing them with a broader perspective on engineering. **Date:** 22/09/2023 - 30/09/23 **Participants:** 134 (IEEE Members:0, Non-IEEE Members: 134)



10. **Workshop: Track Tech** - Held in collaboration with Formula Barton Racing on November 18-19, 2023. The workshop introduced its participants to a preliminary

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understanding of KiCAD and MATLAB. **Date:** 18/11/2023-19/11/2023 **Participants:** 10 (IEEE Members: 4, Non-IEEE Members: 6)



11. **Contest: Best Engineer 9.0** - This yearly competition, exclusively for first year undergraduate students of Government Engineering College, Barton Hill, Trivandrum was held in three rounds.
 - a. Round 1: Aptitude Test - The participants were given an MCQ question paper with 15 minutes to solve 25 questions. The highest performing students were shortlisted to enter the second round. **Date:** 04/12/2023. **Participants:** 300 (IEEE Members: 0, Non-IEEE Members: 300.)
 - b. Round 2: Group Discussion - A GD was conducted with the shortlisted students and the best performers were selected to enter the final round. **Date:** 18/12/2023. **Participants:** 14 (IEEE Members: 0, Non-IEEE Members: 14)
 - c. Round 3: An HR Interview was conducted to select the final winner of the title Best Engineer. **Date:** 19/12/2023. **Participants:** 6 (IEEE Members: 0, Non-IEEE Members: 6)



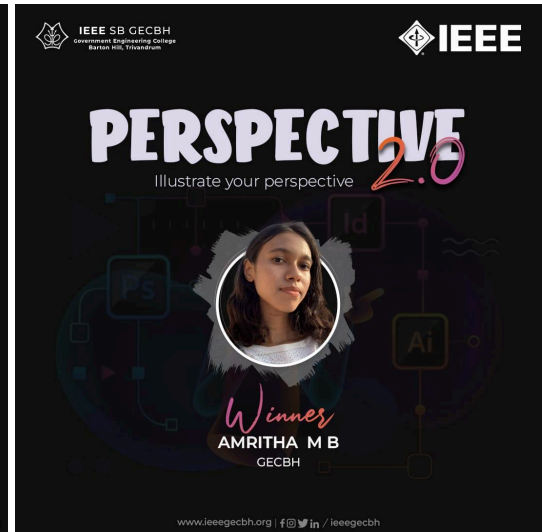
12. **Contest: Reminiscence 2.0** - The second iteration of this event was conducted in due regality. The Student Members of the Student Branch shared their experiences with IEEE. These snippets provided insight into the impact of the SB's activities on its Student Members. **Date:** 18/12/2023. **Participants:** 32 (IEEE Members: 32, Non-IEEE Members: 0)



13. **Contest: COGNITIONIS: #12 - Finals** - The final round of the monthly competition held on Quizzizz was conducted with questions based on all the previous topics of the competition. **Date:** 22/12/2023. **Participants:**13 (IEEE Members: 13, Non-IEEE Members: 0).



14. **Contest: Perspective 2.0:** A Designing competition was held to test contestants' designing skills. **Date:** 31/12/2023-01/01/2024 **Participants:** 25 (IEEE Members: 23, Non-IEEE Members: 2)



IEEE Computer Society SBC GEC Barton Hill, Trivandrum

1. **Webinar: Fluttering With FOSS** - A webinar on 'Introduction to Flutter and connection with OS' conducted over Google Meet featuring Mr. Chrisbin Sunny, Mobile Developer and Open Source Contributor. **Date:** 25/02/2023. **Participants:** 76 (IEEE Members: 64, Non-IEEE Members: 12).



2. **Contest: ERROR 404: Idea Found** - An idea pitching competition held on Google Meet by Women in Computing in IEEE CS GEC Barton Hill, Trivandrum in collaboration with IEEE WiE AG GEC Barton Hill, Trivandrum. **Date:** 02/04/2023 **Participants:** 41 (IEEE Members: 25, Non-IEEE Members: 16).



3. **Contest: COGNITIONIS 3.0 #2** - The second edition of the third iteration of the flagship Quiz competition, COGNITIONIS on the topic of Digital Immune Systems

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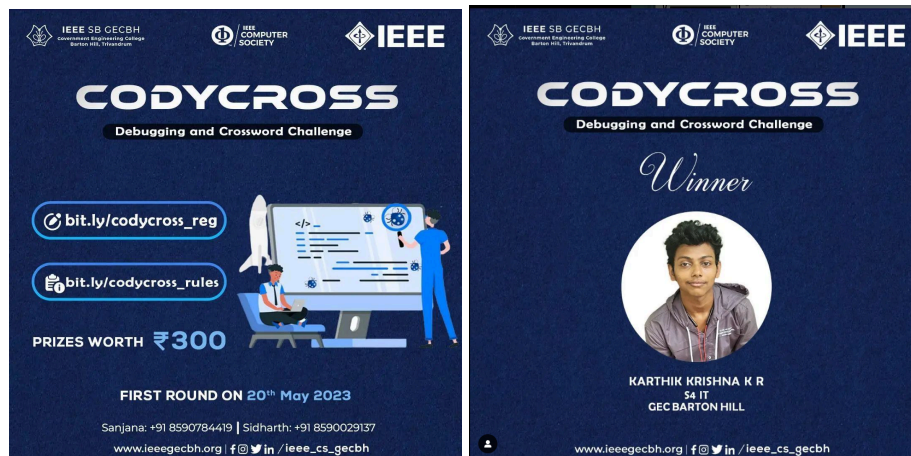
held over Quizizz. **Date:** 19/04/2023 **Participants:** 26. (IEEE Members: 26, Non-IEEE Members: 0)



- Webinar: EVolution** - A talk session held to provide a comprehensive overview of onboard chargers and their role in the charging process of electric vehicles. **Date:** 22/04/2023. **Participants:** 65 (IEEE Members: 42, Non-IEEE Members: 23).



- Contest: CodyCross** - A contest to assess participants' ability to identify and fix errors in code, enhancing their debugging skills, attention to detail, and proficiency in programming languages. **Date:** 23/05/2023 **Participants:** 25 (IEEE Members: 16, Non-IEEE Members: 9).



6. **Workshop: Taming Python** - A Peer to Peer mentorship program to assist in learning the Python programming language and its important libraries including Numpy and Pandas conducted along with 'Coder's Hub - the coding club of the college'. **Date:** 13/03/2023. **Participants:** 56. (IEEE Members: 35, Non-IEEE Members: 21).



7. **Contest: Placement Assessment Test** was organized by IEEE Computer Society SBC, GEC Barton Hill, Trivandrum in collaboration with IEEE RAS SBC GEC Barton Hill, Trivandrum as part of Catalyst 2.0. **Date:** 28/06/2023. **Participants:** 40 (IEEE Members: 26, Non-IEEE Members: 14).



8. **Contest: Portfolio Website Design contest** was organized by IEEE Computer Society SBC, GEC Barton Hill, Trivandrum in collaboration with IEEE RAS SBC GEC Barton Hill, Trivandrum as a part of Catalyst 2.0. **Date:** 31/06/2023. **Participants:** 7 (IEEE Members: 7, Non-IEEE Members: 0).



9. **Contest: Mock Interview** was organized by IEEE Computer Society SBC, GEC Barton Hill, Trivandrum in collaboration with IEEE RAS SBC GEC Barton Hill, Trivandrum as a part of Catalyst 2.0. **Date:** 31/06/2023. **Participants:** 10 (IEEE Members: 10, Non-IEEE Members: 0).



10. **Webinar: SpringBoard To C:** Springboard to C was a 3 day C Programming workshop conducted by IEEE Computer Society SBC GEC Barton Hill, Trivandrum in collaboration with Coders Hub GECBH. The workshop was focused on first years, which was based on KTU syllabus. The session was conducted in offline mode and was handled by Vinayak M (Technical Coordinator, IEEE SB GECBH). **Date:** 21/06/2023-23/06/2023. **Participants:** 50 (IEEE Members: 38, Non-IEEE Members: 12).



11. **TechX '23:** TechX 2023 was a global event that pushed the boundaries of innovations of enthusiastic young minds. It was conducted by IEEE Computer Society SBC GEC Barton Hill, Trivandrum in collaboration with IEEE Computer Society and Young Professionals Activity Committee MGA Board. The event spanned three days, taking place on August 11, 19 and 20, 2023.
- a. **Visit: Stem Odyssey:** This was conducted by IEEE Computer Society SBC GEC Barton Hill, Trivandrum in collaboration with IEEE SIGHT Chapter, GEC Barton Hill on August 11, 2023, from 9:00 AM to 11:30 AM at Government City, VHSS, PMG, Thiruvananthapuram, commenced with an informative session on

- robotics. **Date:** 11/08/2023. **Participants:** 44 (IEEE Members: 44, Non-IEEE Members: 0)
- b. **Workshop: Pixels and Palettes:** A 1.5-hour bootcamp on designing using Canva, presented by Devanarayanan S. V (ECC, IEEE CS Kerala Chapter and Design Coordinator, IEEE CS SYP MGAB). A preliminary introduction to design was provided. **Date:** 11/08/2023. **Participants:** 22 (IEEE Members: 17, Non-IEEE Members: 5)
 - c. **Contest: Design Dash:** A design competition was conducted after Pixels and Palettes for the contestants to put to use their knowledge. **Date:** 12/08/2023. **Participants:** 22 (IEEE Members: 17, Non-IEEE Members: 5)
 - d. **Flare to Flutter:** Flare to Flutter was a hands-on workshop organized by IEEE Computer Society SBC GEC Barton Hill, Trivandrum, as a part of Techx 2023. It provided insight into Flutter. **Date:** 19/08/2023. **Participants:** 62 (IEEE Members: 31, Non-IEEE Members: 31)
 - e. **Meet the SYP:** A session held by Mr. Shivam, Chair of IEEE CS SYP MGAB provided insight into the activities conducted by IEEE CS SYP MGAB. **Date:** 19/08/2023. **Participants:** 62 (IEEE Members: 31, Non-IEEE Members: 31)
 - f. **The X Factor:** An interactive session with an accomplished YouTuber. The session had the participants do various activities which inculcated personality skills in them. **Date:** 19/08/2023. **Participants:** 62 (IEEE Members: 31, Non-IEEE Members: 31)
 - g. **Beyond Graduation: Thriving in the Real World - A Roundtable Discussion** held with 5 alumni of GEC Barton Hill Trivandrum, with diverse backgrounds. **Date:** 20/08/2023. **Participants:** 62 (IEEE Members: 31, Non-IEEE Members: 31)
 - h. **The Power Of The Mind:** The session led by the accomplished mentalist Sravan Sudhakar, captivated participants who witnessed the incredible potential of the human mind. **Date:** 20/08/2023. **Participants:** 62 (IEEE Members: 31, Non-IEEE Members: 31)



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12. **Contest: Cognitionis 3.0 #7** - Cognitionis 3.0 #7 was an online quiz based on the topic “Augmented Reality” conducted by IEEE Computer Society SBC GEC Barton Hill, Trivandrum as part of the year-long quiz series Cognitionis 3.0 organized by the IEEE Student Branch GEC Barton Hill, Trivandrum. **Date:** 30/08/2023. **Participants:** 24 (IEEE Members: 24, Non-IEEE Members: 0).



13. **Xcelerator** - This was a monthly IEEEExtreme Mock Test series to prime the contestants to participate in IEEEExtreme. **Date:** 28/06/2023. **Participants:** 8 (IEEE Members: 8, Non-IEEE Members: 0).



14. **Webinar: Xtreme Insights:** It aimed to provide participants with a comprehensive understanding of IEEE Xtreme 17.0 and its advantages. The session also gave a clear idea on the benefits of obtaining a certificate through participation in IEEE Xtreme 17.0 and walked attendees through the registration process for the competition. **Date:** 13/09/2023. **Participants:** 46 (IEEE Members: 30, Non-IEEE Members: 16).



15. **Alterdime 2.0:** The Flagship Event of IEEE Computer Society SBC GEC Barton Hill Trivandrum was conducted over 3 events.

- a. **Beyond Horizon** - Beyond Horizon was a STEM activity conducted as a part of AlterDime 2.0, the flagship event of IEEE Computer Society SBC GEC Barton Hill, Trivandrum. The event aimed to foster interest and proficiency in Python programming, a versatile and widely-used language in the world of technology. **Date:** 30/09/2023. **Participants:** 49 (IEEE Members: 0, Non-IEEE Members: 49)



- b. **Contest: Quizzards Chapter 2: Finals** - Quizzards Chapter 2 was a member engagement activity conducted by IEEE Computer Society SBC GEC Barton Hill, Trivandrum throughout the year. It was conducted via the official WhatsApp group on 30th or 31st of every month. It was a quiz competition based on the four

digital initiatives being released by IEEE Computer Society SBC GEC Barton Hill, Trivandrum. **Date:** 20/11/2023. **Participants:** 30 (IEEE Members: 30, Non-IEEE Members: 0)



c. **Contest: Crime Mystery** - Crime Mystery was conducted as a three-tier event - a decoding quiz, a technology quiz, and a Caesar cipher test. **Date:** 22/11/2023. **Participants:** 20 (IEEE Members: 15, Non-IEEE Members: 5)

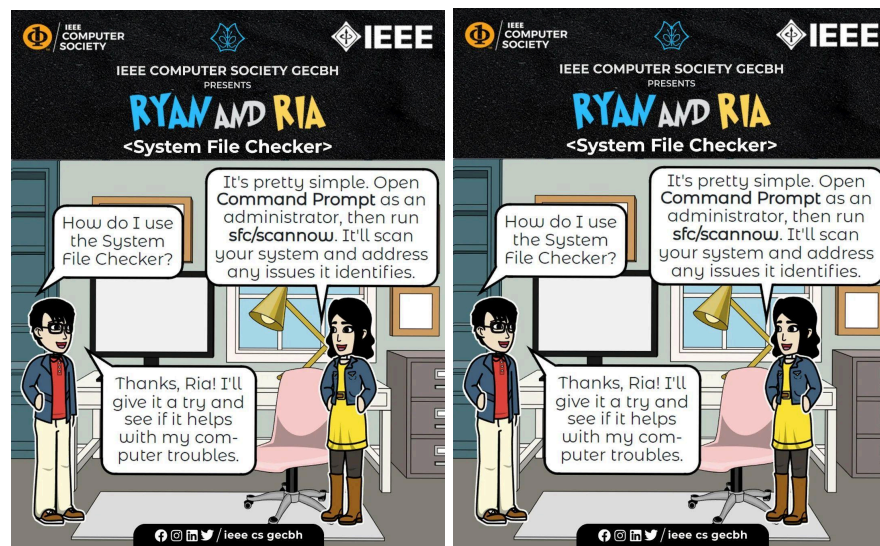


16. **Workshop: Front-End Web Development Workshop:** A 2-day workshop to explore the field of front-end web development, on behalf of IEEE Computer Society SBC GECBH, Trivandrum, IEEE SB GEC Kozhikode, IEEE SB VJEC Kannur, IEEE SB LBS Kasargod and ASME CET Student Section with HAWR Technologies. **Date:** 03/11/2023 - 04/11/2023. **Participants:** 45 (IEEE Members:15, Non-IEEE Members: 30).



DIGITAL INITIATIVES

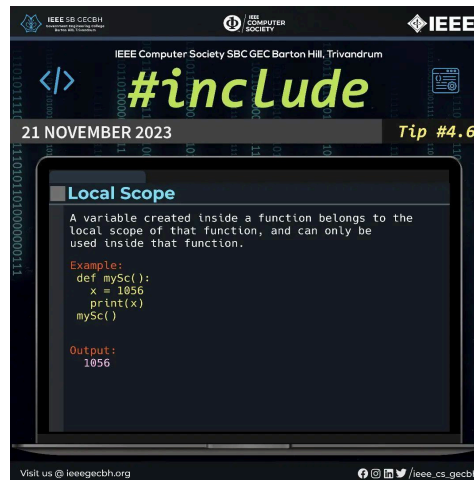
1. **Ryan And Ria:** A long running comic series released by IEEE CS SBC GEC Barton Hill Trivandrum saw **10** new releases this year. These comic strips contained useful life hacks related to computers.



2. **Keynote:** This digital release served to be regular updates about IEEE Computer Society and other technical advancements. 10 editions of Keynote were released in the year 2023.



3. **#include:** The 10 editions of this initiative was to give programming tips to Student Members.



4. **Infobytes:** A video initiative by IEEE CS GECBH that gave a minute long summary of new technologies in the world. 10 editions were released this year.

IEEE Robotics and Automation Society SBC GEC Barton Hill, Trivandrum

1. **Webinar:** Pursuing a career in Robotics featuring Abdul Ahad (Robotics Testing Engineer at FLUX AUTO, former Student Representative of IEEE RAS Kerala Chapter). **Date:** 17/02/2023. **Participants:** 81(IEEE Members: 40, Non-IEEE Members: 41).

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IEEE Robotics & Automation Society

IEEE

PURSUING A CAREER IN
ROBOTICS

ABDUL AHAD
Robotics Testing Engineer, FLUX AUTO
STUDENT REPRESENTATIVE
IEEE KERALA RAS CHAPTER (2020)

PLATFORM: Google Meet

TALK SESSION

REG LINK: bit.ly/pursuit_rob

17TH FEBRUARY | FRIDAY | 7.30PM

CONTACT: JEBISHA: +91 9497838019 | SHEETAL: +91 7736256272

ieeegecbh.org | in | f | /ieee_ras_gecbh

2. **Contest:** AI Forge - A Robotics Project Development Challenge using ChatGPT conducted in offline mode at GEC Barton Hill, Trivandrum. **Date:** 30/03/2023. **Participants:** 12 (IEEE Members:8, Non-IEEE Members: 4).

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IEEE Robotics & Automation Society

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IEEE RAS SBC GECBH

AI FORGE
ChatGPT based project challenge competition

EVENT DETAILS

DATE
30th March 2023

Apply at: bit.ly/aiforge

Rules: bit.ly/aiforgerules

Prizes Worth **500** Rupees

Nijo P : 4282353042 | Nived Rajesh : +919645795309

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AI FORGE
ChatGPT based project challenge competition

Winners

Second Prize
Amitha Ajith and Sangeetha P

First Prize
Krishna Anil and Hridhya Rajesh V

Third Prize
Roon Augustine Babu and Annie Ouseph

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- Contest: COGNITIONIS 3.0 #1** as part of COGNITIONIS 3.0 on the topic of India's Space Program. **Date:** 30/03/2023. **Participants:** 43. (IEEE Members:43, Non-IEEE Members: 0).



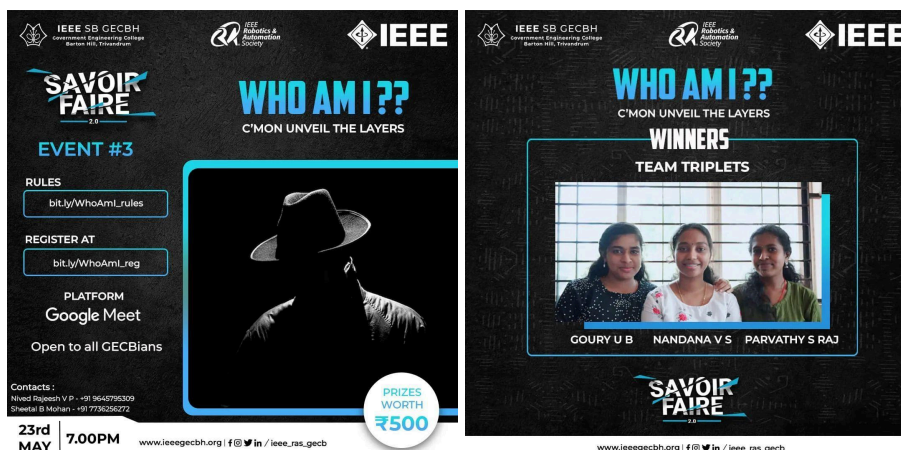
- Contest: Cryptic Chamber** - A puzzle solving competition which was the first competition as part of **Savoir Faire 2.0**, a 3 day program featuring 3 events. **Date:** 19/05/2023. **Participants:** 13 (IEEE Members:10, Non-IEEE Members: 3).



- Contest: Glyphismo** - An entry-based sci-fi character designing competition, the second competition as part of **Savoir Faire 2.0**, a 3 day program featuring 3 events. **Date:** 21/05/2023. **Participants:** 3. (IEEE Members:2, Non-IEEE Members: 1).



- Contest: Who Am I?**, a picture identifying competition, the final event held as part of **Savoir Faire 2.0**, a 3 day program featuring 3 events. **Date:** 25/05/2023. **Participants:** 19 (IEEE Members:13, Non-IEEE Members: 6).



- Contest: A logo-designing competition** for the upcoming STEM project (ros.h) of the SBC. **Date:** 11/05/2023. **Participants:** 6 (IEEE Members: 5, Non-IEEE Members: 1).



workshop

- Workshop:** A Peer to Peer Mentorship Training held on the topic of Internet of Things(IoT). The sessions were conducted over Google Meet. **Date:** 13/05/23 – Ongoing. **Participants:** 25 (IEEE Members:15, Non-IEEE Members: 10).

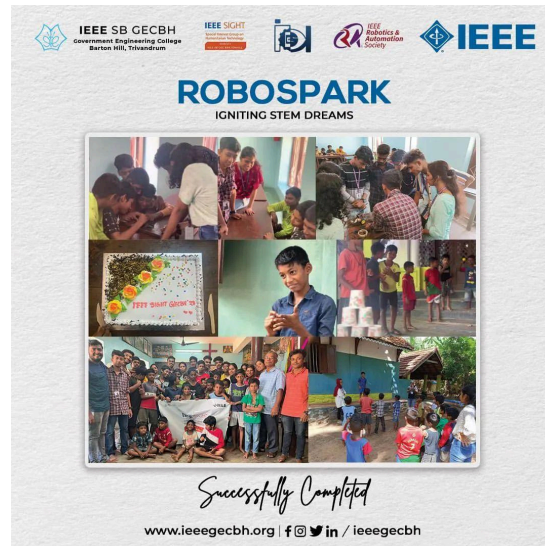


- STEM: Robospark** - This was a STEM activity at Christian Mission Service Children’s Home organized by the IEEE RAS SBC GECBH in collaboration with IEEE SIGHT GECBH as part of ros.h and SIGHT Week celebrations. The event aimed to introduce the children to the world of robotics. During the visit, the children in classes 8th to 12th were engaged in various small projects and interactive sessions related to robotics. **Date:** 10/06/2023. **Participants:** 55 (IEEE Members: 15, Non-IEEE Members: 40)

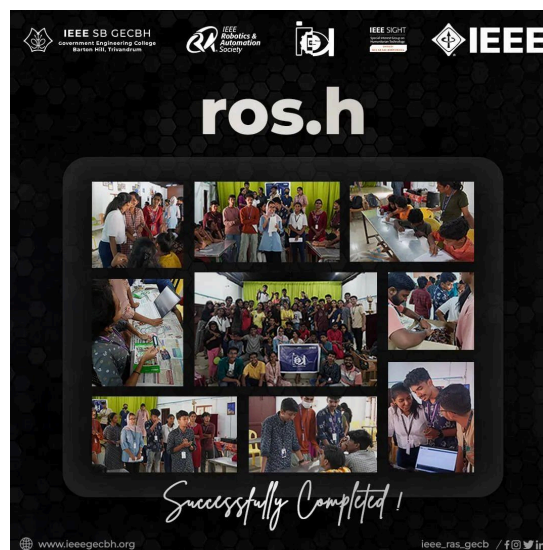
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10. **STEM: ros.h (Phase 2)** - This was a STEM activity at Sree Chitra homes organized by the IEEE RAS SBC GECBH in collaboration with IEEE SIGHT GECBH as part of ros.h. The event aimed to introduce the children to the world of robotics. During the visit, the children to basics of electronics and programming concepts through hands-on Arduino projects and interactive sessions. **Date:** 10/06/2023. **Participants:** 21 (IEEE Members: 21, Non-IEEE Members: 0)



11. **Xperia:** The flagship event of IEEE RAS SBC GEC Barton Hill, Trivandrum comprised 3 events.

- a. **Webinar:** A talk session named From Freshman to Tech Pro was conducted to give a brief overview of navigating one’s college journey. **Date:** 26/01/2023. **Participants:** 65 (IEEE Members: 19, Non-IEEE Members: 46).



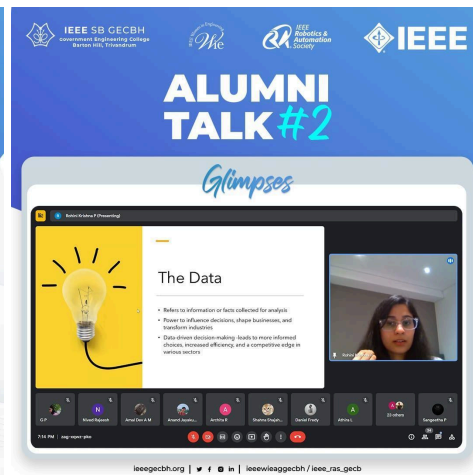
- b. **Workshop:** A workshop on industrial automation was conducted. The workshop delved into key aspects of industrial automation, focusing on Programmable Logic Controllers (PLCs). **Date:** 30/09/2023. **Participants:** 47 (IEEE Members: 4, Non-IEEE Members: 43).



- c. **Contest: Enigma Squares** - A puzzle competition was conducted on whatsapp as the last and final event of Xperia, the SBC’s Flagship Event. **Date:** 03/10/2023. **Participants:** 51 (IEEE Members: 34, Non-IEEE Members: 17).



12. **Webinar: Alumni Talk #2** - Ms Rohini Krishna, who graduated with a Masters in Data science and analytics from UK, shared her experience through the journey learning the art and mastering the data storytelling in this era of information, and personal details through the journey. **Date:** 20/11//2023. **Participants:** 23 (IEEE Members: 14, Non-IEEE Members: 9).



13. **Contest: Cognitionis 3.0 #11** - IEEE RAS Student Branch Chapter GEC Barton Hill conducted Cognitionis 3.0 - Expanding Your Cognitive Horizon's 11th edition, based on the topic History of Robotics on Quizizz **Date:** 25/11//2023. **Participants:** 24 (IEEE Members: 24, Non-IEEE Members: 0)

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IEEE RAS SBC GECBH PRESENTS

COGNITIONIS 3.0

EXPANDING YOUR COGNITIVE HORIZON

#11 HISTORY OF ROBOTICS

PLATFORM: QUIZZIZ APPLY AT: bit.ly/Cognitionis3-11

25th November | 7.30 PM
Exclusively for IEEE Members

1st Prize: Google Home Mini with Google Assistant Smart Speaker (Charcoal)
2nd Prize: One plus Nord Buds
3rd Prize: Firebolt Phoenix Smart Watch

Contact: Ganitha : +91 9495304411 | Sheetal : +91 7736256272
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IEEE RAS SBC GECBH PRESENTS

COGNITIONIS 3.0

EXPANDING YOUR COGNITIVE HORIZON

Winners

ARSHA S
GECBH

SWATHY SURESH M
GECBH

R HARIPRASAD
GECBH

#11 COGNITIONIS QUIZ RESULTS
[f](https://www.facebook.com/ieeerassbcgecbh) | [i](https://www.instagram.com/ieeerassbcgecbh) | [in](https://www.linkedin.com/company/ieeerassbcgecbh) / [ieeerassbcgecbh](https://www.linkedin.com/company/ieeerassbcgecbh)

DIGITAL INITIATIVES

1. **Knowbots:** This initiative has been released over the past few years and features highlights from IEEE Spectrum. 10 editions were released this year,

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IEEE RAS SBC GECBH PRESENTS

IEEE

“First Transient Electronic Bandage Speeds Healing by 30 Percent”

BIOFRIENDLY TRANSIENT DEVICES
By Greg Goth

Researchers at Northwestern University, Evanston and University of Sussex have developed environmentally sustainable devices that monitor blood pressure, heartbeat, or treat persistent ailments. Northwestern’s **transient bandage**, which uses **electrotherapy** to monitor and heal diabetic wounds, is much more advanced than proof-of-concept stage. Two small **molybdenum electrodes** connected to an electrical power harvesting unit and a near-field communications module are integrated into the bandage. The sensor developed at Sussex is **fully biodegradable**. Food-grade algae powder is added to a graphene suspension made from graphite, sodium cholate, and deionized water, then dried to form a **nanocomposite sheet**.

KNOW BOTS
Insights from IEEE Spectrum >> Robotics

IEEE SPECTRUM | bit.ly/knowbots49 | [f](https://www.facebook.com/ieeerassbcgecbh) | [i](https://www.instagram.com/ieeerassbcgecbh) | [in](https://www.linkedin.com/company/ieeerassbcgecbh) / [ieeerassbcgecbh](https://www.linkedin.com/company/ieeerassbcgecbh)

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“For the first time, this technology lets us print complete functional systems right off the print bed.”

3D Printing Breakthrough: Functional Robotic Hand in One Go
By Edd Gent

In a groundbreaking achievement, **ETH Zurich** and MIT spin-out **Inkbit** researchers have unveiled a 3D inkjet-printing technique for a skeletal robotic hand with **fully functional ligaments and tendons** in a single run. This innovation enables the one-run creation of functional systems, including a bio-inspired robotic hand and a heart-modeled pump. Similar to office inkjet printers, it uses **UV-curable resins** for high-resolution 3D printing. The technology holds promise for diverse applications with its capability to fabricate complex structures in a **single print run**.

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2. **Robolytics:** Robolytics is a platform for beginners to learn the basics of different robotic domains through fascinating posters. 8 editions of Robolytics were released in 2023.

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ROBOLYTICS

Seek ■ Learn ■ Innovate

NICE TO MEET YOU! I'M AN ARDUINO COMPATIBLE JOYSTICK, DESIGNED TO HELP YOU NAVIGATE AND CONTROL VARIOUS PROJECTS AND APPLICATIONS WITH PRECISION AND EASE.

I'M EQUIPPED WITH FEATURES THAT MAKE INTERFACING WITH AN ARDUINO SMOOTH AND EFFICIENT. WITH ANALOG OUTPUTS, I PROVIDE PRECISE CONTROL. DIRECTIONAL KEYS AND MY TACTILE SWITCHES OFFER ADDITIONAL FUNCTIONALITY WITH THEIR DIGITAL INPUTS.



JOYSTICK MODULE

WHETHER YOU'RE INTO ROBOTS, GAMING, OR CREATING INTERACTIVE PROJECTS, I'M HERE TO OFFER RELIABLE CONTROL AND VERSATILITY IN YOUR ARDUINO-BASED ENDEAVORS.

THE HINDU FOR A TYPICAL JOYSTICK COMPATIBLE WITH ARDUINO OFFEN INCLUDES CONNECTIONS FOR POWER (VCC, GROUND (GND)), AND ANALOG OUTPUTS FOR BOTH THE X AND Y AXES. ADDITIONALLY, THERE ARE USUALLY DIGITAL INPUTS CORRESPONDING TO TACTILE SWITCHES OR BUTTONS ON THE JOYSTICK.

THE JOYSTICK'S X AND Y AXES PRODUCE ANALOG VALUES CORRESPONDING TO THESE DIRECTIONS, WHILE THE TACTILE SWITCHES REGISTER DIGITAL SIGNALS WHEN PRESSED, ENABLING PRECISE CONTROL AND INPUT DETECTION FOR ARDUINO-BASED PROJECTS.

EDITION 08

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IEEE SB GEGBH Government Engineering College Barton Hill

01 0 1

ROBOLYTICS

Seek ■ Learn ■ Innovate

HELLO EVERYONE, TODAY WE TAKE INTO THE PIVOTAL ROLE OF HC-05 MODULES IN ELECTRONIC HC-05 MODULES ACT AS THE NEURAL PATHWAYS OF DEVICES, ENABLING SEAMLESS WIRELESS COMMUNICATION AND INTERACTION WITH THE SURROUNDING ENVIRONMENT, MAKING THEM INDISPENSABLE IN MODERN TECHNOLOGY.

CHOOSING THE APPROPRIATE HC-05 MODULE IS KEY TO SELECTING A ROBOT'S COMMUNICATION BRAIN, SIGNIFICANTLY IMPROVING ITS CONNECTIVITY, DATA EXCHANGE CAPABILITIES, AND OVERALL EFFECTIVENESS IN VARIOUS APPLICATIONS.



HC-05 Bluetooth

HC-05 MODULES provide cost-effective solutions to cater to diverse robotic requirements, offering seamless wireless communication with superior data transfer speeds and reliability. As wireless communication protocols, making them a preferred choice for modern robotic applications.

Integrating an HC-05 module into a robot's electronic setup demands meticulous attention to compatibility, data transmission rates, and communication protocols. This ensures seamless integration with the robot's control system, enabling efficient wireless interactions. Look for precise operation, stable data transmission, and real-time feedback. Critical considerations of factors such as signal range, interference mitigation, and power consumption are essential. Moreover, implementing robust security measures, such as encryption protocols, is vital to safeguard sensitive data, giving wireless communication, fortifying the module's role as a cornerstone in creating secure and responsive robotic systems.

EDITION 07

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IEEE Antenna Propagation Society & Microwave Theory and Technology Society SBCs GEC Barton Hill, Trivandrum

1. **Webinar:** Distinguished Microwave Lecture on the topic **Distributed Phased Arrays: Challenges and Recent Progress** featuring Dr. Jeffrey Nanzer, Associate Professor at Michigan State University. **Date:** 26/01/2023. **Participants:** 102. (IEEE Members: 102, Non-IEEE Members: 0)

DML
DISTRIBUTED PHASED ARRAYS:
CHALLENGES AND RECENT
PROGRESS

Dr. Jeffrey Nanzer
ASSOCIATE PROFESSOR
MICHIGAN STATE UNIVERSITY
IEEE DISTINGUISHED MICROWAVE
LECTURER

26th JANUARY 2023
7 PM IST
(IST = GMT+ 5:30)

REGISTER HERE : https://bit.ly/DML_2023

2. **Webinar:** Alumni Connect Session on the topic of Basics of Radar Systems and their Applications in Vital Sign Monitoring featuring Ms. Sivada M. S, Research Student at IIT Kharagpur. **Date:** 08/03/2023. **Participants:** 21. (IEEE Members: 21, Non-IEEE Members: 0)

ALUMNI CONNECT
Basics Of RADAR Systems &
Their Application In Vital Sign Monitoring
when waves catch your breath!

Sivada MS
MS(R) STUDENT
IIT KANPUR

8th March | 7 PM
bit.ly/talkseries_2

CONTACT : GOWRI : +91 9995164965 | SWATHY : +91 85901 79567
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- Contest: Gate Gladiator Game** - A Logic Gate design competition held as part of Logic League through Google Forms. **Date:** 29/04/2023. **Participants:** 30(IEEE Members: 23, Non-IEEE Members: 7).



- Contest: Simulation Smackdown** - A competition wherein selected participants from the 'Gate Gladiator Game' were asked to simulate a particular circuit on Tinkercad conducted as the final round of Logic League. **Date:** 29/04/2023. **Participants:** 8. (IEEE Members: 8, Non-IEEE Members: 0)



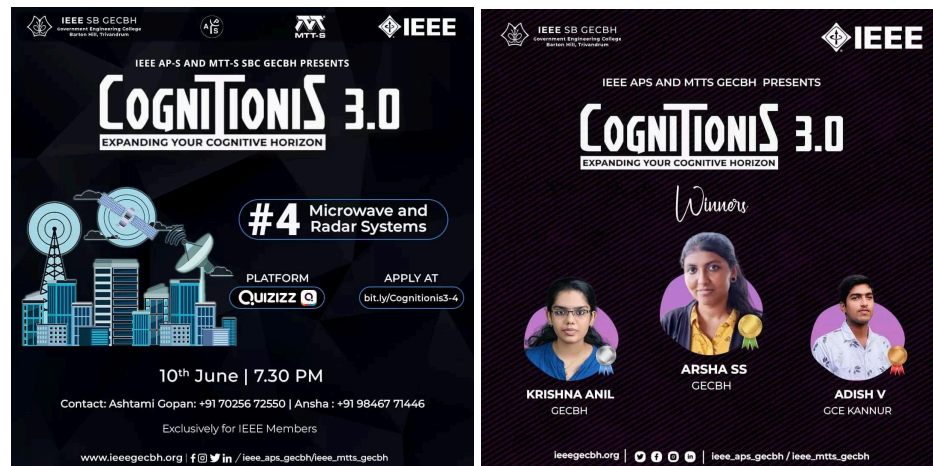
- Contest: Techstreak 2.0 - Crossword Puzzles.** A monthly competition held through the WhatsApp Group of the SBCs aimed at member engagement. **Date:** 26/02/2023. **Participants:** 8. (IEEE Members: 8, Non-IEEE Members: 0)



6. **Contest: Techstreak 2.0 - Image Quiz.** A monthly quiz competition held through the WhatsApp Group of the SBCs aimed at member engagement. **Date:** 30/03/2023. **Participants:** 8. (IEEE Members: 8, Non-IEEE Members: 0)
7. **Contest: Techstreak 2.0 - Logical Reasoning.** A monthly quiz competition held through the WhatsApp Group of the SBCs aimed at member engagement. **Date:** 01/05/2023. **Participants:** 10. (IEEE Members: 10, Non-IEEE Members: 0)
8. **Webinar: A Technical Talk on Quantum Computing** handled by Mr. David J Wineland, who is a Nobel Prize winner and Research Professor, Department of Physics, University of Oregon, Eugene. **Date:** 27/05/2023. **Participants:** 54 (IEEE Members: 40, Non-IEEE Members: 14)



9. **Contest: Cognitionis 3.0 #4-** Microwave and Radar System. IEEE AP-S and MTT-S SBCs GEC Barton Hill, Trivandrum conducted COGNITIONIS 3.0 #4, the fourth edition of Cognitionis 3.0 quiz series. It was based on the topic of Microwave and Radar Systems. **Date:** 10/06/2023. **Participants:** 33. (IEEE Members: 33, Non-IEEE Members: 0)



10. **Webinar: AI in Wireless Communication:** A talk session on AI in Wireless communication was held by IEEE AP-S and MTT-S SBCs GEC Barton Hill and GEC Wayanad along with Kerala Section Chapters of AP-S and MTT-S. The session was handled by Aswin RC Lead Senior Engineer Qualcomm and a former research scholar from IIT Madras. **Date:** 30/07/2023. **Participants:** 30. (IEEE Members: 30, Non-IEEE Members: 0)



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11. **Contest: CareerQuest - Impromptu** was the first round for the 3-day event Careerquest, conducted by IEEE AP-S, IEEE MTT-S SBCs, in collaboration with IEEE WiE AG GECBH. Each participant was allowed to talk for 2 minutes on a topic they selected on the spot. **Date:** 30/07/2023. **Participants:** 19 (IEEE Members: 16, Non-IEEE Members: 3).



12. **Contest: CareerQuest - Vision Xchange** was the second round for the 3-day event Careerquest, conducted by IEEE AP-S, IEEE MTT-S SBCs GECBH, in collaboration with IEEE WiE AG GECBH. This round was a Group Discussion. **Date:** 08/08/2023. **Participants:** 21 (IEEE Members: 17, Non-IEEE Members: 4).



13. **Workshop: Mapping the Universe - A Stellarium Workshop** organized by the IEEE AP-S and MTT-S SBCs GEC Barton Hill, Trivandrum, in collaboration with Stellaria SASTRA, aimed to provide an immersive cosmic experience that blended scientific wonder with technical finesse. This event invited participants and speakers to explore the cosmos using the Stellarium software and gain insights into the marvels of the universe. **Date:** 12/08/2023. **Participants:** 23 (IEEE Members: 7, Non-IEEE Members: 16).



14. **Contest: CareerQuest - Flip The Script** was the third round for the 3-day event CAREERQUEST, conducted by IEEE AP-S & MTT-S SBCs GECBH, in collaboration with IEEE WiE AG GECBH. Flip The Script was a Reverse Mock Interview held on Google Meet. **Date:** 15/08/2023. **Participants:** 9 (IEEE Members: 6, Non-IEEE Members: 3).



15. **Workshop: SkillsForge #1 Matlab Essentials:** SkillsForge is a comprehensive program conducted by IEEE AP-S and MTT-S SBCs GEC Barton Hill, Trivandrum, designed to enhance technical skills through a series of upskilling events. The inaugural session focused on MATLAB, spanning a duration of one month. The program commenced with foundational MATLAB concepts and progressively delved into advanced topics such as Simulink and diverse toolbox applications. **Date:** 4/06/2023 - 15/08/2023. **Participants:** 63 (IEEE Members: 38, Non-IEEE Members: 25).



16. **Workshop: SkillsForge #2 - Blast Off with OpenRocket:** It was a remarkable event that effectively achieved its mission of promoting aerospace and astronomy knowledge among the participants. The event succeeded in introducing attendees to the versatile OpenRocket software, with in-depth discussions on rocket design and simulations. **Date:** 24/09/2023. **Participants:** 19 (IEEE Members: 19, Non-IEEE Members: 0).

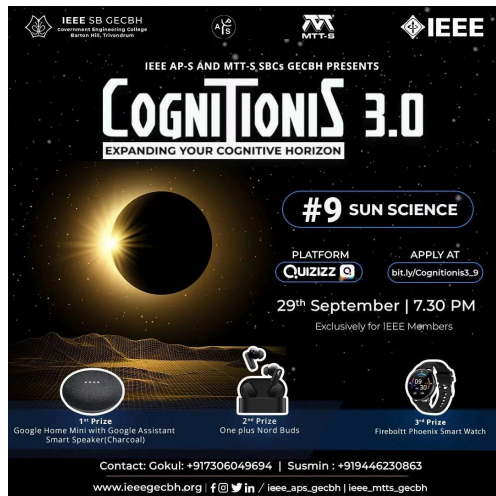


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17. **Contest: COGNITIONIS 3.0 #9** - The 9th edition of COGNITIONIS 3.0 was conducted on Quizizz on the topic of Sun Science. **Date:** 29/09/2023. **Participants:** 33 (IEEE Members: 33, Non-IEEE Members: 0).

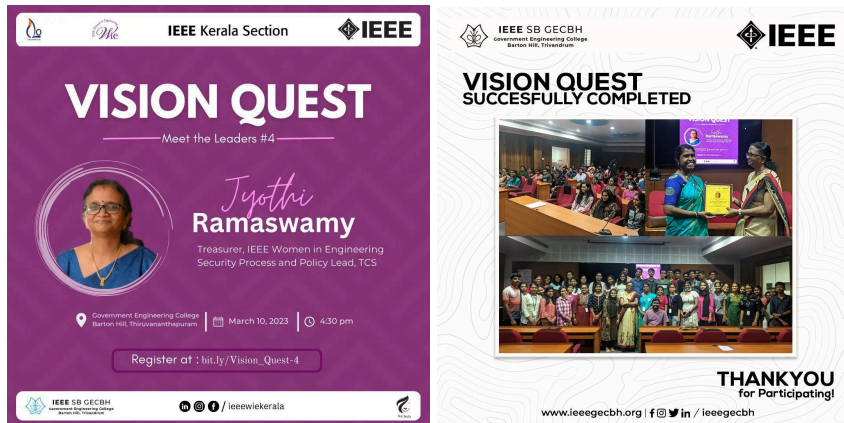


18. **Contest: Cyber Cipher Challenge:** The challenge consisted of 3 rounds of puzzle solving and logical reasoning questions. **Date:** 02/12//2023 **Participants:** 50 (IEEE Members: 33, Non-IEEE Members: 17).

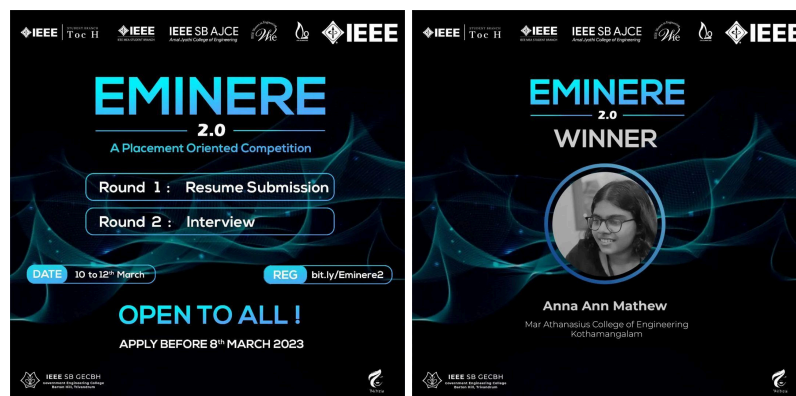


IEEE Women In Engineering AG GEC Barton Hill, Trivandrum

1. **Talk: Vision Quest #4** was conducted in collaboration with IEEE WiE Kerala Section as part of WiE week celebrations 2023 featuring Mrs. Jyothi Ramaswamy who is the Treasurer of IEEE WiE and Security Process and Policy Lead at TCS. **Date:** 10/03/2023. **Participants:** 60. (IEEE Members: 40, Non-IEEE Members: 20)



2. **Contest: Eminere 2.0** - a Placement Oriented Competition held by IEEE WiE AGs of GECBH, AJCET, MEA, and TIST in collaboration with IEEE Kerala Section as part of WiEbiela WiE Week Celebration 2023. **Date:** 09/03/2023-11/03/2023. **Participants:** 30. (IEEE Members: 30, Non-IEEE Members: 0)



3. **Contest: WiE Achiever of the Year** - A monthly quiz competition held through the WhatsApp Group of the AG aimed at member engagement. **Date:** 13/02/2023. **Participants:** 11 (IEEE Members: 11, Non-IEEE Members: 0)



- Contest: ERROR 404: Idea Found** - An idea pitching competition held on Google Meet by Women in Computing in IEEE CS GEC Barton Hill, Trivandrum in collaboration with IEEE WiE AG GEC Barton Hill, Trivandrum. **Date:** 02/04/2023 **Participants:** 41 (IEEE Members: 25, Non-IEEE Members: 16).



- Contest: Inscribe War** : A caption writing contest held as part of Technovanza 2.0. **Date:** 26/04/2023. **Participants:** 32. (IEEE Members: 23, Non-IEEE Members: 9)



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6. **Contest: Innoquest** - A contest to submit innovative upgrades to existing products. This event was held as part of Technovanza 2.0. **Date:** 01/05/2023. **Participants:** 28 (IEEE Members: 16, Non-IEEE Members: 12)



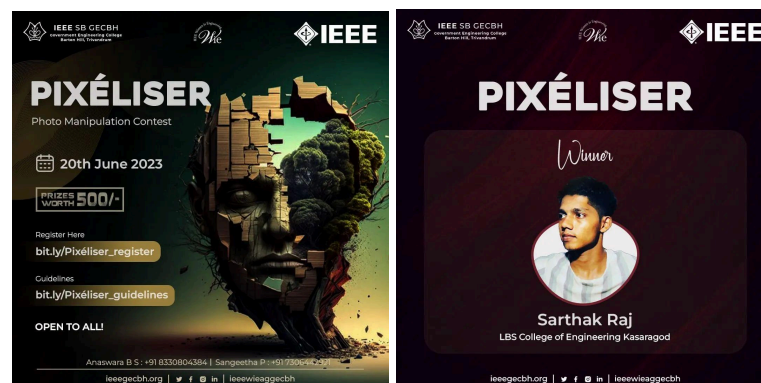
7. **Contest: E-Exodus** - A Virtual Escape Room competition held as part of Technovanza 2.0. **Date:** 04/05/2023. **Participants:** 44. (IEEE Members: 31, Non-IEEE Members: 13)



8. **Contest: COGNITIONIS 3.0 #3** - held as part of COGNITIONIS 3.0 on Quizizz on the topic of Big Data Analysis and Data Mining. **Date:** 16/05/2023. **Participants:** 51 (IEEE Members: 46, Non-IEEE Members: 5)



9. **Contest: Pixeliser** - Pixeliser was a Photo Manipulation Contest held to cater to the artistic side of the participants. They were allowed to use any platform to manipulate any of the 4 pictures provided to them. **Date:** 20/06/2023 - 24/06/2023. **Participants:** 6 (IEEE Members: 2, Non-IEEE Members: 4).



10. **Webinar: Webinar On Prompt Engineering:** This webinar was conducted as part of WiE Day and featured Mr Karthik K, the Vice Chair of IEEE Kerala section Young Professionals. The speaker practices a profession involving prompt engineering and thus delivers the ideas, concepts, rules, vision, future advantages and drawbacks of the field. **Date:** 29/07/2023. **Participants:** 39 (IEEE Members: 16, Non-IEEE Members: 23).



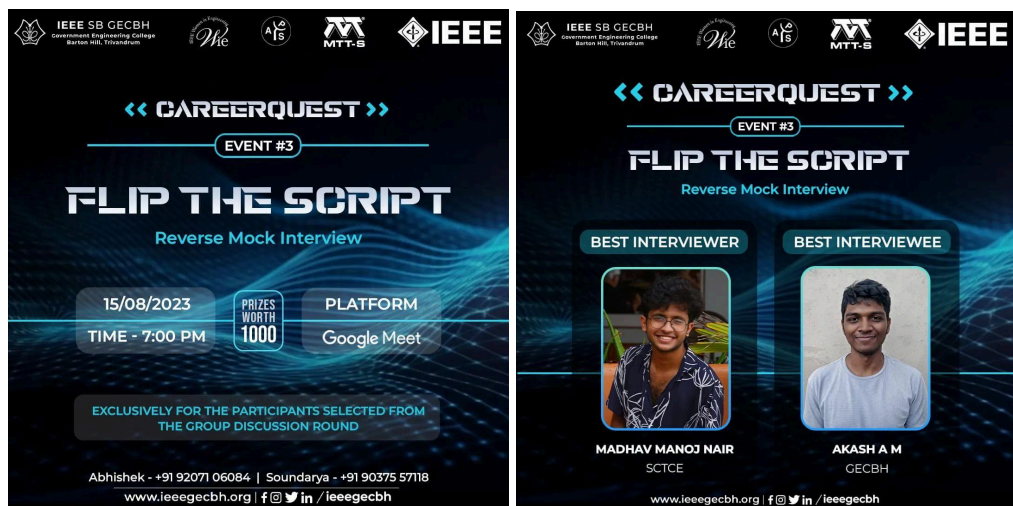
11. **Contest: CareerQuest - Impromptu** was the first round for the 3-day event Careerquest, conducted by IEEE AP-S, IEEE MTT-S SBCs, in collaboration with IEEE WiE AG GECBH. Each participant was allowed to talk for 2 minutes on a topic they selected on the spot. **Date:** 30/07/2023. **Participants:** 19 (IEEE Members: 16, Non-IEEE Members: 3).



12. **Contest: CareerQuest - Vision Xchange** was the second round for the 3-day event Careerquest, conducted by IEEE AP-S, IEEE MTT-S SBCs, in collaboration with IEEE WiE AG GECBH. This round was a Group Discussion. **Date:** 08/08/2023. **Participants:** 21 (IEEE Members: 17, Non-IEEE Members: 4).



13. **Contest: CareerQuest - Flip The Script** was the third round for the 3-day event CAREERQUEST, conducted by IEEE AP-S, IEEE MTT-S SBCs, in collaboration with IEEE WiE AG GECBH. Flip The Script was a Reverse Mock Interview held on Google Meet. **Date:** 15/08/2023. **Participants:** 9 (IEEE Members: 6, Non-IEEE Members: 3).



14. **Webinar: Alumni Talk #1** - This webinar, held on Google Meet is the first of the Alumni Talk Series by the WiE AG wherein various alumni of Government Engineering College, Barton Hill, Thiruvananthapuram narrate their experiences. The Speaker, Ms Meenakshy Ravichandran, Product Manager-Mercedes Benz, shared her experience through the journey the competitive world of CAT, joining IIM and

furthermore personal details regarding the journey. **Date:** 02/09/2023. **Participants:** 60 (IEEE Members: 36, Non-IEEE Members: 24).



15. **Contest: NickKnack 3.0 #1** - This was an aptitude based test series. The event’s main objective was to familiarize students with previous year aptitude questions from the CAT exam, with a time crunch. **Date:** 06/9/2023 - 8/9/2023. **Participants:** 75 (IEEE Members: 33, Non-IEEE Members: 42.)



16. **Contest: Cognitionis 3.0 #8** - The 8th quiz of COGNITIONIS 3.0 was held on Quizizz on the topic of IOT & Embedded Systems. **Date:** 15/09/2023. **Participants:** 30 (IEEE Members: 30, Non-IEEE Members: 0)

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IEEE WIE AG GECBH PRESENTS

COGNITIONIS 3.0

EXPANDING YOUR COGNITIVE HORIZON

#8 IoT & EMBEDDED SYSTEMS

PLATFORM: QUIZZIZZ | APPLY AT: bit.ly/Cognitionis3-8

15th September | 7.30 PM
Exclusively for IEEE Members

1st Prize: Google Home Mini with Google Assistant Smart Speaker (Charcoal)
2nd Prize: One plus Nord Buds
3rd Prize: Firebolt Phoenix Smart Watch

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Winners

R HARIPRASAD (GECBH)
R ASHWIN (CEC)
ANVITHA VINOD (CET)

#8 COGNITIONIS QUIZ RESULTS
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17. **Contest: NickKnack 3.0 #2** - This was an aptitude based test series. The event's main objective was to familiarize students with previous year aptitude questions from the GATE exam. **Date:** 22/9/2023 - 23/9/2023. **Participants:** 45 (IEEE Members: 35, Non-IEEE Members: 10.)

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NICK 3.0 KNACK

#2 An Online Aptitude Test Series based on GATE

22nd, 23rd September | 7:00 PM

Register Now | bit.ly/NickKnack3_2

PRIZES WORTH ₹500

Open to All!

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NICK 3.0 KNACK

#2 An Aptitude Test Series based on GATE

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3	ANUPAMA VIDYASAGAR	FISAT
4	ADITHYA S S	GEC Idukki
5	VARSHA VINOD	GECBH
6	SWATHY PRADEEP	GECBH
7	M MOHAMED RAZEEN	CET
8	GOURAV BINOJ	GECBH
9	NANDHAGOPAN G	GECBH
10	HAFSA K S	CCE

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18. **Webinar: Alumni Talk #2:** Held in collaboration with IEEE RAS SBC GECBH, this event featured Ms. Rohini Krishna. The speaker explained the role of data scientists and the ways in which graphs communicate. **Date:** 20/11//2023. **Participants:** 23 (IEEE Members: 14, Non-IEEE Members: 9).

DIGITAL INITIATIVES

1. **Qwien:** A monthly series through which the achievements of popular women in STEM are showcased. 11 editions of Qwien were published this year.

2. **Motorezo:** A monthly release featuring various progressions in the automobile industry. This newly started series has had 5 editions published this year.

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We

MOTORÉZO #1
"Speeding towards our goals!"



Afeela

Engine Power 544 HP (399 kW)	Max. Speed 180 km/h	Number of Engines Dual Motor	Driving System AWD
Engine Type Permanent Magnet, Synchronous Motor	DC Charge Rate 200kW	DC Charge Time 30 Min	

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IEEE SB GECBH Government Engineering College Barton Hill, Tiruvallur

We

MOTORÉZO #1
"Speeding towards our goals!"



- Sony, a major Japanese entertainment and technology corporation, and Honda, a Japanese manufacturer, teamed up to develop Sony Honda Mobility (SHM). It is about to break cover in 2026 with its first model, a smooth-sided EV sedan under the new brand Afeela.
- SHM bills Afeela as representing "a new relationship between people and mobility".
- The cabin glows with ambient lighting, and we can see a rotary controller ahead of the centre armrest to access the car's entirely digital dashboard. The general layout is simple and clean, and the cabin seems spacious for a sedan.
- The touchscreen dashboard entertainment system extends the full width of the car, serving up full-screen movies, music, navigation and PlayStation 5 remote play with a controller (for passengers or when parked).
- Exterior screens on the front grille can display the theme, the weather, the charging status, or even the score of a football game.

Safety and Driver-Assistance Features

- Standard automated emergency braking
- Standard lane-departure warning and lane-keeping assist
- Standard adaptive cruise control
- Facial recognition unlocks the car and opens the door.
- The prototype has 45 cameras and sensors, including lidar, radar, and ultrasonic, to enable hands-free driving on the motorway in certain conditions.
- Afeela cars will also have automated driving features.

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IEEE SIGHT GEC Barton Hill, Trivandrum

1. **Webinar: INSIGHT** - a webinar on an Introduction to IEEE SIGHT, featuring Robin Francis (Former Chairman IEEE SIGHT CEC) and Muhammed Iqbal R. (Chairman IEEE SIGHT CEC). **Date:** 12/02/2023. **Participants:** 55 (IEEE Members: 36, Non-IEEE Members: 19).



2. **STEM: Vriddhi** - A visit to Government UP School Ponmudi to conduct STEM sessions for school students as part of the project 'Vriddhi'. **Date:** 23/02/2023. **Participants:** 51 (IEEE Members: 7, Non-IEEE Members: 44).
3. **Contest: Idea Bash** - An offline competition which requires an idea for a social cause to participate in to play fun games. **Date:** 31/03/2023. **Participants:** 50 (IEEE Members: 43, Non-IEEE Members: 7).



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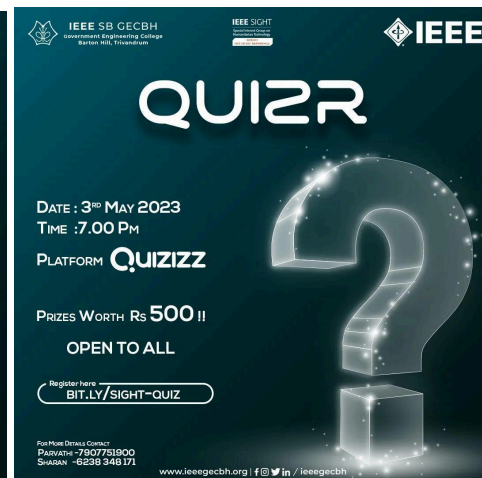
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4. **Contest: Round Robin - Online Group Discussion** consisting of two rounds as part of SIGHT week celebration. The second round was conducted on Google Meet. **Date:** 02/05/2023. **Participants:** 14 (IEEE Members: 10, Non-IEEE Members: 4).



5. **Contest: QUIZR - an online quiz competition** held on Quizizz with the theme of ‘sustainable development meets humanitarian technology’ as part of SIGHT week celebration. **Date:** 03/05/2023. **Participants:** 51 (IEEE Members: 40, Non-IEEE Members: 11).

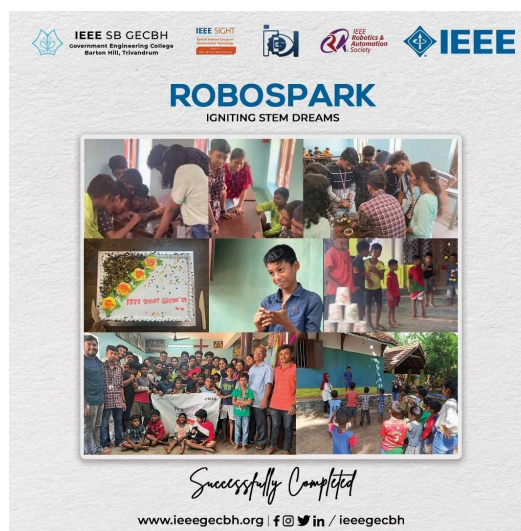


6. **Webinar: How To Build A Project Proposal - A talk session** held as part of SIGHT week celebration featuring Adithya Rajeev, Lead- R&D team, IEEE SIGHT Kerala

Section. **Date:** 05/05/2023. **Participants:** 52 (IEEE Members: 42, Non-IEEE Members: 10)



7. **STEM: Robospark** - This was a STEM activity at Christian Mission Service Children's Home organized by the IEEE SIGHT Chapter GECBH in collaboration with IEEE RAS SBC GECBH as part of SIGHT Week celebrations and ros.h. The event aimed to introduce the children to the world of robotics. During the visit, the children in classes 8th to 12th were engaged in various small projects and interactive sessions related to robotics. **Date:** 10/06/2023. **Participants:** 55 (IEEE Members: 15, Non-IEEE Members: 40)



8. **Contest: Cognitionis 3.0 #5** - An 5th iteration of the online quiz competition as part of the ‘COGNITIONIS 3.0’ via Quizizz. The theme of the quiz was Humanitarian Technology. **Date:** 30/06/2023. **Participants:** 28 (IEEE Members: 28, Non-IEEE Members: 0)



9. **STEM: StemReach** - As part of Vriddhi, IEEE SIGHT GECBH donated a wide range of physics lab equipment to the students of VHS School Trivandrum. **Date:** 04/08/2023. **Participants:** 30 (IEEE Members: 7, Non-IEEE Members: 23)
10. **STEM: Stem Odyssey** - IEEE SIGHT Chapter GECBH in collaboration with IEEE CS SBC GECBH conducted a STEM activity, “STEM Odyssey: Igniting Passions, Empowering Minds”, at Government City VHSS, PMG, Trivandrum as a part of TechX’23. The event aimed to introduce the children to various new technologies. **Date:** 11/08/2023. **Participants:** 30 (IEEE Members: 7, Non-IEEE Members: 23)



11. **STEM: COPE** - IEEE SIGHT CHAPTER GECBH visited Government UP School Ponmudi to inspire and educate students at the government UP school in Ponmudi, fostering their interest and proficiency in STEM subjects through engaging activities and demonstrations. A session for the parents and teachers were also taken during the visit. **Date:** 13/09/2023. **Participants:** 65 (IEEE Members: 14, Non-IEEE Members: 51).



12. **Contest: COGNITIONIS 3.0 #10:** The 10th edition of COGNITIONIS 3.0 was conducted on Quizizz on the topic of Sustainable Development. **Date:** 03/11/2023. **Participants:** 28 (IEEE Members: 28, Non-IEEE Members: 0)



13. **STEM: Project Vriddhi (Final Phase):** The volunteers of IEEE SB GECBH visited Government UP School Ponmudi and engaged in showcasing a series of experiments focusing on topics such as Magnetism and Optics. The demonstrations were facilitated through the utilization of the newly donated lab equipment. **Date:** 08/12/2023. **Participants:** 42 (IEEE Members: 7, Non-IEEE Members: 35)

