

ANNUAL NEWSLETTER

2019-'20

VOL.11

DEPARTMENT OF
COMPUTER SCIENCE
AND ENGINEERING



VISION

To acquire global excellence in the field of Computer Science and Engineering, nurturing in professionals, technical competence, innovative skills, professional ethics and social commitment

DEPARTMENT MISSION

- To equip students with a strong foundation in the area of Computer Science and Engineering using effective teaching-learning practices.
- To provide state-of-the-art infrastructure to suit academic, industry and research needs at the global level.
- To engage students and faculty in interdisciplinary research that promotes innovative ideas for sustainable development.
- To incorporate skill enhancement programmes for students and faculty to cope with the contemporary developments in technology.
- To inculcate effective communication skills, professional ethics and social commitment among professionals through value added programs.

PROGRAM EDUCATIONAL OBJECTIVES (PEO)

Graduates of Computer Science & Engineering will

1. Evolve as globally competent computer professionals, researchers and entrepreneurs possessing collaborative and leadership skills, for developing innovative solutions in multidisciplinary domains.
2. Excel as socially committed computer engineers having mutual respect, effective communication skills, high ethical values and empathy for the needs of society.
3. Involve in lifelong learning to foster the sustainable development in the emerging areas of technology.

PROGRAM SPECIFIC OUTCOMES (PSO)

Students of the Computer Science and Engineering program will:

PSO1: Professional Skills: Attain the ability to design and develop hardware and software based systems, evaluate and recognize potential risks and provide creative solutions.

PSO2: Successful Career and Entrepreneurship: Gain knowledge in diverse areas of Computer Science and experience an environment conducive in cultivating skills for successful career, entrepreneurship and higher studies.

PROGRAM OUTCOMES (PO)

Engineering Graduates will be able to:

1. **Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
2. **Problem analysis:** Identify, formulate, research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
3. **Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
4. **Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
5. **Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
6. **The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
7. **Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
8. **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
9. **Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
10. **Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
11. **Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
12. **Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

GLORIOUS ACHIEVEMENTS

NBA RE-ACCREDITATION TILL 2022-'23



The Department of Computer Science and Engineering is **re-accredited by NBA** (National Board of Accreditation) for **three years** from **2020-'21 to 2022-'23**. The academic performance, teaching-learning process, placement statistics, infrastructure facilities, research & consultancy, various technical and extracurricular initiatives of the department were assessed by the NBA team. The department could retain the NBA accreditation and the students will now get international recognition and greater appreciation. Since the first accreditation in 2017, the students of CSE are eligible for B.Tech honors degree under the APJ Abdul Kalam Technological University (KTU).

'BEST ACCREDITED STUDENT BRANCH AWARD'

CSI NATIONAL LEVEL RECOGNITION FOR THE 7th CONSECUTIVE TERM



Toc H CSI Student Branch has been honoured with the prestigious National level '**Best Accredited Student Branch Award**' from Computer Society of India for the years **2017-'18 and 2018-'19**, the seventh consecutive time in a row. With this, TIST has proven its continuing excellence in coordinating best in class professional society activities. TIST is the **only college in Kerala which holds pride for this prestigious National level recognition continually since 2012**. The institute has a very active student wing, which has distinguished itself by organizing international conferences, intercollegiate competitions, technical sessions and workshops, thus contributing towards the skill development of students. **Dr. Sreela Sreedhar, HOD, Dept. of CSE** received the awards from **Prof. Mike Hinchy (President IFIP)** at the **53rd CSI Annual Convention (CSI 2020)** held at **Kalinga Institute of Industrial Technology, Bhubaneswar, Odisha** on 18th January, 2020.



'HIGHEST COMMITTED STUDENT BRANCH ACTIVIST AWARD':

Mr. Yadav Jayachandran of 2016-'20 batch was conferred with the best active student member award. He has been the Secretary of the student branch and has coordinated various technical events. He has taken various technical sessions across the state. Yadav is also selected as the

Technology Innovation Fellow - Community Development at Kerala Startup Mission.



'LONGEST CONTINUOUS SBC AWARD':

Asst. Prof. Elsaba Jacob, of the CSE Dept., received the SBC Award, in recognition for the significant contributions to the CSI activities.

KTU - CERD PROJECT FUNDING – Rs. 13,000

The project titled "**SBOX - Intelligent Automobile Blackbox**" was selected under **Research Seed Money Scheme** for project funding by **APJ Abdul Kalam Technological University (KTU)**.

A fund of **Rs. 13,000** was sanctioned for the same from KTU.

- » **Team Members** - Ansa N Varkey, Rahul Murali, Varsha Hari, Yadav Jayachandran (2016-'20 batch)
- » **Principal Investigator** – Asso. Prof. Jesna Anver
- » **Co-Investigator** - Asst. Prof Ceira Sara Cherian



FINALISTS - CSI INAPP NATIONAL STUDENT PROJECT AWARDS 2020



Aiswarya Sen



Ashika Chinnu Shabu



Muhammed Sahil K



Ann Mary Tom



Anuraj C K
Project Guide

Final Year Project titled,

'STELLAR ARM' was selected to the final round of the 9th edition of CSI InApp National Student Project Awards 2020. The team was selected from more than 650 teams across India, got special appreciation from the judging panel and won cash prizes.

- » **Team Members** – Ann Mary Tom, Aiswarya Sen, Ashika Chinnu Shabu, Muhammed Sahl K (2016-'20 batch)
- » **Project Supervisor** – Asst. Prof. Anuraj C K

INFRASTRUCTURE AND DEVELOPMENTS

ADDITIONAL INTAKE IN B.TECH (Total 90 seats) & INTRODUCING NEW M.TECH COURSE in DATA SCIENCE:



The Department of Computer Science and Engineering, since its inception in **2002**, imparts quality education in the field of **B.Tech Computer Science and Engineering**, with 60 seats. Since **2009**, the Dept. offers **M.Tech in Data Security**. In 2020, APJ Abdul Kalam Technological University has sanctioned an additional intake of 30 seats in B.Tech, thereby making the total seats as **90**.

For equipping students with the must have **Industry 4.0 skillset for the 21st century**, the Department introduced a new PG course - **M.Tech in Data Science** in 2020, which is one of the most sought after courses globally. This program would enable learners to be adept in a wide array of skills such as Mathematical Modeling, Data Preparation, ML, AI and Data Analytics.

ASAP – ADDITIONAL SKILL DEVELOPMENT CENTRE (ASDC)

Toc H is listed as an ASDC of ASAP (Additional Skill Acquisition Programme), an MHRD and Govt. of Kerala Initiative to offer futuristic certification courses in AI and ML and other new generation courses by Google, Amazon, IBM etc. for addressing the skill gap of engineering students. ASAP Consultancy for training has generated an **income of Rs. 2,22,500** so far.

- » **Dr. Sreela Sreedhar, HOD-CSE** serves as the **nodal officer** of TIST ASAP centre.
- » **Prof. Dr. N Vishwanath, Asso. Prof. Jesna Anver and Asst. Prof. Abin Oommen Philip** serves as trained resource persons for ASAP courses.
- » ASAP is sponsoring the expenses of students to attend TCS iON CCQT (Common Corporate Qualifier Test) which is a qualification assessment to help them listed in top corporates (over 130 companies).



TELEPRESENCE LAB

INDUSTRY SPONSORED LAB: Telepresence lab is sponsored by Kerala State IT Infrastructure Ltd.

(Rs. 17,22,718.50):

This is a Hi-Tech lab with audio video support, touch screen television, speaker track camera, mic and speakers which can be utilized for virtual classrooms and interactive webinars.



MODROB GRANT IN AID FOR LABS – Rs. 4 Lakhs

Sanctioned an amount of **Rs. 4 lakhs** as the grant in aid under the scheme Modernization and Removal of Obsolescence (MODROB) for upgrading the Computer Science Lab to Machine Learning Lab.

INTERNET OF THINGS (IoT) LAB

An IoT Lab is set up in the CS department with partial funding from CERD student project fund. The lab is equipped with 14 Raspberry pi kits, 5 Arduino kits, NODE MCU and accessories like GPS module, Accelerometer, Gyroscope, Memory Card and Data Cables. [Existing Programming Labs upgraded with high end systems worth Rs. 8,65,080](#)

KERALA BLOCK CHAIN ACADEMY (KBA) INNOVATON CLUB

TIST is a member of Blockchain Innovation club in association with **Kerala Blockchain Academy (KBA)** and Startup Mission Kerala, and is organizing activities based on that.

As part of the initiative, KBA conducted free workshop on 'Blockchain; the disruptive technology' for students and an FDP for faculty members of CSE. CSE students attended Hyperledger India Chapter National e-Meetup at Maker Village, Kochi on 20th July 2019. The association helps students working on Blockchain projects to get guidance from experts at KBA.



PARTNERSHIP WITH CDAC – FACE ACADEMY



FACE (Federal Academy for Cyber Education), an accredited training partner of C-DAC is offering a **Cyber Forensics course** certified by C-DAC to Computer Science students at a reduced rate. They are also offering various technical sessions and webinars in the area of security in association with the department for the benefit of students.

FACULTY ACHIEVEMENTS

★ BEST TEACHER AWARD 2018-'19

Asst. Prof. Rinu Rose George, Dept. of CSE has been honoured with the '**Best Teacher Award**' of Toc H for the academic year 2018-'19. The award was presented during the graduation day ceremony held in September 2019.



★ REGISTERED FOR Ph.D in 2020:



Ms. Elsaba Jacob, Assistant Professor, CSE registered for Ph. D in Kerala Technological University (KTU), in Aug 2020.



Ms. Leda Kamal, Assistant Professor, CSE, registered for Ph. D in Sathyabama University, in Aug 2020.



Mr. Eldhose P Sim, Assistant Professor, CSE, registered for Ph. D in Sathyabama University, in Aug 2020.

NOTABLE STUDENTS' ACCOMPLISHMENTS

ASAP CERTIFICATIONS: 11 students from CSE successfully completed the **Google Cloud ACE** program and 6 students completed the **UI Path Robotic Process Automation Certification** offered through ASAP ASDC



GHCE SCHOLARSHIP:
(Grace Hopper Celebration India)

Ms. Anjana Unnikrishnan
(CSE 2017-'21 batch)



PARTICIPATION IN REBOOT KERALA HACKATHON 2020 FINALS



Reboot Kerala Hackathon 2020, an initiative of ASAP and Dept. of Higher Education, presented **Kerala's biggest Hackathon series** with 22 hackathons across the state, which aimed to provide students a platform to solve the pressing problems in daily lives, thus inculcate a culture of product innovation and a mindset of problem-solving in a cost effective manner.

4 teams from CSE participated under the **Agriculture, Transportation and Education domains**.

Team 1: Yadev Jayachandran, Jishnu N V, Abhay P A, Ashika Chinnu Shabu, Krishnendhu Menon (2016-'20 batch)

Team 3: Allen John, Prince Puthussery, Vyshnav Sasidharan, Aleesha Antony, Vyshnavy O A, Surayya Yousaf (2017-'21 batch)

Team 2: Rithin Varghese, I P Raghesh Kumar, Nandu Nagesh, Arya Anand, Hemant Kumar Yadav, Anju M Winny (2017-'21 batch)

Team 4: Sidharth S, Ashish Thomas Mathew (2017-'21 batch), Sona Aravindan (2017-'21 batch)



വെബ്സൈറ്റ്: www.rebootkerala.org
നവകേരള വികസനം: റീബൂട്ട് കേരള ഹാക്കത്തൻ

ACADEMICS & PLACEMENTS

RESULTS & PLACEMENTS 2020

B.TECH CSE – TOPPERS



- ★ 1st - Varsha Hari CGPA – 9.06
- ★ 2nd - Prince Francis CGPA – 8.73
- ★ 3rd - Mariya Paul CGPA – 8.69

M.TECH CS (Data Security) - TOPPERS



- ★ 1st – Sruthi Suresh CGPA – 9.05
- ★ 2nd – Abima Prasad CGPA – 8.99

UNIVERSITY RESULTS

B.TECH RESULTS: June 2020 (2016-'20 batch) – 83.61% pass in the B. Tech Degree Examination, May 2020.

M.TECH RESULTS: July 2020 (2018-'20 batch) - 100% pass in the M. Tech Degree Examination, June 2020.

Semester-wise Results:

Year of Adm.	Semester	No. of Students Appeared	No. of Students Passed	Pass Percentage
2016	S7	61	52	85%
	S6	61	54	88.5%
2017	S5	55	31	56%
	S4	56	35	62.5%
2018	S3	57	30	53%
	S2	57	34	60%
2019	S1	63	44	70%

PLACEMENTS

90% of the eligible students of B.Tech 2016-'20 batch got placed in various reputed companies like Infosys, TCS, CTS, H&R Block, IBS Software, UST Global, Amazon, Byju's, UVJ Technologies, Quest, Speridian etc.



ANNUAL REPORT 2019-'20

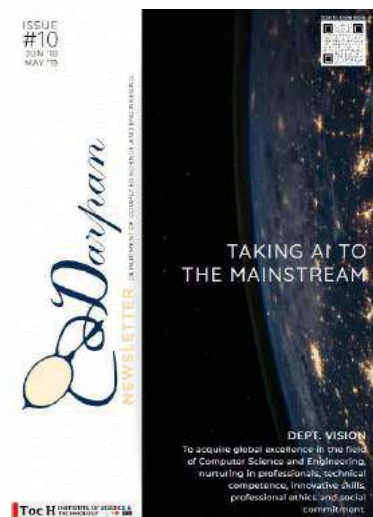
CSAT & CSI STUDENT BRANCH ACTIVITIES:

INAUGURATION OF CSAT & CSI ACTIVITIES 2019-'20:

The launch of activities of CSAT – Computer Science and Engineering Student's Association and CSI Student Branch of Toc H Institute of Science & Technology for the academic year 2019-'20 was held on 6th February 2020, by **Mr. Jibin Jose**, Co-Founder and CEO, Flip Motion Technologies (Head of Startup Initiatives at I2E – Rethink Foundation [CSE Alumni of 2010-'14 batch]). The function was presided over by **Prof. Dr. Preethi Thekkath, Principal**, TIST. Assoc. Prof. Sreela Sreedhar, HOD-CSE presented the annual report. HODs and faculty from different departments and students from CSE attended the event.

DARPAN 2019, THE ANNUAL NEWSLETTER RELEASE:

The Annual newsletter of the department, '**DARPAN 2019**' was released during the event by the chief guest. Awards were distributed for the toppers of B.Tech and M.Tech.



MAJOR EVENTS:

NATIONAL LEVEL TECHNICAL FEST **TECH FOSS 2020**

The **Department of Computer Science and Engineering**, in association with the **Computer Society of India**, organized a two day National Level Intercollegiate Technical Fest '**TECH FOSS 2020**' on **31st January & 1st February 2020**. This is the seventh event in the TechFOSS series. The mission is to promote the virtues of free software and to increase the awareness among the young generation regarding how each one can contribute to the open source arena. Tech FOSS started with the launch session on 31st January 2020. **Dr. Alex Mathew, (President, Toc H Public School Society)**, inaugurated the fest on 31st January.



MAJOR EVENTS:

Two days hands-on workshops were conducted on **Python for Problem Solving and Machine Learning (in association with ICFOSS - International Centre for Free and Open Source Software)**. Three technical contests were organised – **Technical Quiz , Debugging and Idea Pitching**

1. PYTHON WORKSHOP:

'Python for problem solving' workshop was handled by **Mr. Siddharth Prajosh C, Software Engineer, Belong.co, Bangalore**. Participants were given hands-on sessions in Python through a series of practice sessions and quizzes, so that they gain the problem solving skills. The workshop covered – introduction, expressions, statements, names and objects, functions - arbitrary positional and keyword arguments. There were 30 participants.

2. MACHINE LEARNING WORKSHOP

Two days workshop on Machine learning was conducted by **Mr. Yadev Jayachandran, Mr. Rahul Murali and Ms. Varsha Hari (ASAP trainees, final year students)**. The workshop included everything for a beginner to understand the machine learning basics. The workshop covered various exercises on different scenarios where ML can be applied. There were 14 participants for the workshop.



CONTESTS:

TECH TRIVIA-QUIZ

was conducted on 31st January. 16 teams participated. Prelims was conducted and shortlisted teams participated in the final round. Asst. Prof. Ceira Sara Cherian served as the quiz master. Arjun S and Nikitha Mariam Cherian of S6 CSE secured the first prize. Albin Xavier and Alvin Mohan of S8 CSE secured the second prize. The winners were awarded with cash prizes and certificates.



CODE BATTLE – Coding Competition

was conducted on 31st January. 16 teams participated. Shortlisted teams from prelims round participated in the final round. Asst. Prof. Anuraj C K coordinated the event. Merin Anna Jose and Taniya Joseph of S8 CSE secured the first prize. Albin Xavier and Alvin Mohan of S8 CSE got the second prize. The winners were awarded with cash prizes and certificates.



HOST PITCH – Idea Pitching Competition

An Idea pitching competition was organized on 1st February 2020. The concept of an electric cycle with relevant features by Mr. Karthik Suresh won the first prize. Mr. Siddharth Prajosh, Dr. N Vishwaath along with Dr. Sreela Sreedhar (HOD) were the evaluators.



COMPETITIONS FOR SCHOOL STUDENTS:

Quiz Competition:

General quiz for school students was organized as part of Tech FOSS. Students from various schools in Ernakulam like Bhavans Newsprint Vidyalaya Velloor, Global Public School Thiruvaniyoor, Mar Stephen's Valakom, St. Stephen's HSS Keerampara, St. Paul's Veliyanad, St. Mary's HSS Thalakode, MKM HSS Piravom, Fathima Matha HSS Piravom, Nirmala HSS Muvattupuzha, BTC Public School Puthencruz etc. participated. Asst. Prof. Ceira Sara Cherian was the Quiz master. Sankeerth Sanjeev and Athulkrishna S from Bhavans Newsprint Vidyalaya, Velloor secured the first prize. Navaneeth Sabu and Sanitha Biju from St. Stephen's HSS Keerampara & Fathima Central School, Piravom respectively, secured the second prize. The winners were awarded with Cash prize and Certificates.



Project Expo:

A Project Expo was also conducted for Schools Students on the same day, giving a venue to showcase their projects. The winners were awarded with cash prize and certificates.



VR Zone:

A Virtual reality zone was also set up for experiencing VR.



FACULTY DEVELOPMENT PROGRAMS

2 DAYS FDP ON 'INTRODUCTION TO BLOCK CHAIN':

Department of CSE, in association with Kerala BlockChain Academy (KBA), IIITM-K organized 2 days Faculty Development Program on 'Introduction to BlockChain' on 21, 22 June 2019. Mr. Franklin John, Mr. Nikhil V Chandran and Mr. Sabir Aboobaker, from KBA delivered technical sessions. The sessions included introduction to blockchain, its features, life cycle of transaction, consensus protocol and Ethereum. The session provided hands on training on basic concepts, and introduced the concepts of Bitcoin, Hyperledger etc, and also explained various application scenarios in which BC can be applied. Faculty members of various colleges and all staff of CSE & IT of TIST attended the same.



2 DAYS FDP ON 'IOT PROTOCOLS AND SECURITY':

The Department of CSE organized 2 days FDP on 'IoT PROTOCOLS AND SECURITY' on 29th & 30th July, 2020, in online mode. The FDP was inaugurated by Mr. Sreekumar K V, Head - Academic Relations, ICT Academy of Kerala, Trivandrum. The sessions covered "IoT Protocol Stack and Industrial IoT- Industry 4.0" on day 1 and "Internet of Things Security" on Day 2. Academicians, Industry professionals and research scholars from various institutes participated in the FDP.

ALUMNI MEET 2020 – A TRIP TO NOSTALGIA

The Department of CSE organized an Alumni meet on 14th February 2020 at TIST Campus. More than 50 alumni members from different batches gathered for the meet and all enjoyed a nice get together time, recollecting the moments made together in this campus, rebuilding the bonding with the institution. Asst. Prof. Ceira Sara Cherian offered the welcome address and Dr. Sreela Sreedhar (HOD-CSE) addressed the alumni. All shared their memories in the campus and they were gifted with tokens of remembrance. Finally, a great day ended with another set of memories which will last for a lifetime.



EXPERT LECTURES

EXPERT SESSION on DATA SCIENCE



Dept. of CSE organized an expert lecture on Data Science by **Mr. Sherry Thomas, Sr. Consultant Data Science, Trainon.in** (former Lead Consultant, Cresco Business Solutions) to S5 and S7 students on 18.10.2019.

Being an experienced and senior trainer in Big Data Analytics, he explained how effective Data Analytic strategies can be implemented for gaining better insights. He also briefed on data analytics, business reporting, machine learning, marketing, finance & economics.



EXPERT SESSION on BLOCKCHAIN



An expert session on 'BlockChain Technologies' was delivered by **Mr. Girish Babu, Expertz Lab** to S8 students on 04.02.2020. The blockchain is a topic of increasing importance in the current scenario. The workshop included the required basic knowledge for a beginner to understand the concept better. The session gave a deep insight on the core concepts and application scenarios of blockchain.

SHORT TERM TRAINING PROGRAMS

STTP on FOSS AND ENTERPRISE SOLUTIONS

Short Term Industrial Internship Training for 10 days on "FOSS and Enterprise Solutions" was conducted by **Mr. Raphy P Varghese, CEO, gooseBerry.media, Technolodge**, Piravom from 08.07.2019 to 18.07.2019 for S2 students. This was a unique internship program to build Leaders for the Industry. The program covered technical and behavioural aspects, including aptitude test, resume preparation, group discussions, mock interview, team formation, developing product idea, FOSS, project management training in - UNIX and GIT commands, GIT - version control



and project management, web designing, web hosting, idea pitching and product presentation. All the activities were done in groups, which helped inculcate in the students a sense of teamwork and cooperation with one another. The best performing teams were awarded. Mr. Yadev Jayachandran, Ms. Arya Anand, Mr. Sarang Ravikumar of CSE Dept. also served as resource persons in the training process.

TECHNICAL WORKSHOPS

WORKSHOP on DESIGN PROJECT



Design Project Orientation Workshop was conducted by **Dr. K S Mathew, Professor, RSET** for S5 students on 03.08.2019. The session outlined the processes in SDLC life cycle and the steps to be followed in the development of a project.

He also explained and conducted brainstorming process to illustrate how to select a perfect design. He also familiarized the tools for creating a design document.



WORKSHOP on BLOCKCHAIN

Dept. of CSE in association with **Kerala Blockchain Academy (KBA)** conducted a one day workshop on "Introduction to Block Chain Technologies" on 25.10.2019. **Mr. Sabir Aboobaker and Mr. Nikhil V Chandran, Research Fellows, KBA** were the resource persons. Interested students from different semesters participated in the event. The workshop aimed at introducing the next generation disruptive technology to



students and motivating them to work on real time challenges utilising the technology.

The session covered Introduction to blockchain technology, decentralized applications, application scenarios in banking & fintech and governance, hyperledger blockchain, opportunities, societal impact and challenges.

INTERCOLLEGIATE WORKSHOP on ENTREPRENEURSHIP AND BUSINESS MODEL

One day Workshop on Entrepreneurship and Business model conceived by **E-Cell IIT Bombay** was held at TIST. The session was handled by **Mr. Babu Mohanan, Former Scientist, ISRO** on 25.10.2019. About 83 students from different colleges participated in the event.

The workshop aimed to inspire and train young students and was completely interactive, with ideation and team building exercises to generate ideas, make business plans, learn about funding and identify their strengths in the area of entrepreneurship. It helped the students to get insights into entrepreneurship and the challenges faced in business, to learn how to generate new ideas and how to get their idea validated, to find out the importance of building a strong team and the ways in which they can develop a good team for start-up and idea. The participants were given a start-up kit with business model canvas and were rewarded with a certificate of participation from E-Cell, IIT Bombay. The workshop was very interactive and the students were given experience in all areas of business modelling.



IOT WORKSHOP by TINKERHUB



Department of CSE Toc H in association with Toc H Tinkerhub Chapter organised a workshop on IoT from 9.01.2020 to 10.01.2020. **Mr. Jishnu N V and Mr. Abhay P A** (S8 CSE) handled the sessions for interested student members from different semesters. Tinkerhub TIST regularly hosts meet ups and workshops as part of promoting Peer Learning Culture in the campus.

HARDWARE WORKSHOP

Dept. of CSE organised a computer hardware orientation workshop 'Building a PC' for S1 students on 18.01.2020. The session was handled by **Mr. Joby Varghese** (Lab Instructor), CSE. He familiarized the components and gave a detailed overview of the assembling of a computer and gave hands on training.



THINK PY - PYTHON WORKSHOP & CODING CHALLENGE



Department of CSE Toc H in association with Toc H Tinkerhub Chapter conducted two days Python workshop and coding event, conducted by **Mr. Jishnu N V and Mr. Abhay P A**, (Tinker Hub, TIST) on 24.01.2020 and 25.01.2020. Tinkerhub TIST regularly hosts meet ups and workshops as part of promoting Peer Learning Culture at campus. Interested student members from different semesters participated in the event.

WING WORKSHOP - 'WOMEN RISE TOGETHER'

WING – Women Rise Together, an initiative by the DPIIT and Startup India, is a capacity development program for women entrepreneurs in the country. It aims to identify, support and celebrate aspiring and established women entrepreneurs so they may realize their immense economical and revolutionary potential. The workshop was conducted on 06.02.2020 - 07.02.2020 for selected female students. **Mr. Jibin Jose, CEO and Co-founder, FLIP, Rethink Foundation** handled the sessions. Various Women entrepreneurs and seasoned startup founders shared their personal entrepreneurial stories. In the idea pitching competition, Ms. Nahan of final year won a Google Mini.



GOOGLE CLOUD WORKSHOP



Career Readiness Study Jam - "Google Cloud Workshop" was conducted by delegates from Google on 12.02.2020 for ASAP Google ACE registered students at TIST Telepresence lab. All 33 students enrolled in the program attended the session.

TECHNICAL TALKS / SEMINARS



Technical Session on Artificial Intelligence

A technical session on Artificial Intelligence was handled by Ms. Anagha P. Shibu, Cogniz English Academy for S7 and S5 students on 02.08.2019.



Technical Session on Cyber Security and Cyber Forensics

A technical session on Cyber Security and Cyber Forensics certifications was delivered by Ms. Rachel Sara Jacob, FACE, Vytilla on 22.08.2019 for S5 and S7 students.



Webinar on 'Overview on 3D Visualization and Animation'

The Webinar was handled by Dr. Sameer Sahasrabudhe (IIT Bombay) was conducted on 16.09.2019 for S1 students.



Technical Session on Android Fundamentals

A technical session on Android Fundamentals was conducted by Mr. Jinu John, Immneos Technologies, Technolodge, Kakkoor on 27.09.2019 for S1 students.



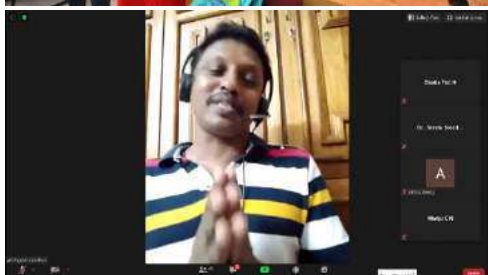
Technical Session on Android Fundamentals

A technical session on Android Fundamentals was conducted by Mr. Jinu John, Immneos Technologies, Technolodge, Kakkoor on 04.10.2019 for S3 students.



Technical Session on Django

Technical session on Django was handled by Mr. Sarath S, Kites Software for S5&S7 students on 11.10.2019. The session covered basic overview on Django frame work. The session was informative for fast and effective website development.



WING Awareness Session on 'Women Rise Together'

An awareness session was organized for the girl students by Mr. Shameem and Ms. Varsha from Kerala Start up Mission on 24.10.2019. WING an Initiative by the DPIIT and startup india, 'Women Rise together' is a capacity development program for women entrepreneurs in the country.

Webinar on 'Recession-proof Careers after Graduation'

Dept. of CSE in association with T.I.M.E organised a webinar for final year students on 13th June 2020 (Saturday) from 11 am to 12.30 pm. The session discussed various job opportunities and higher studies opportunities for engineering graduates after their course.

Webinar on "Career Opportunities for CS/IT Professionals after Graduation"

The webinar was handled by Mr. Rajesh Sasidhar, HR & Admin Manager, CGP Career Avenues on 27th June 2020, from 5.00 pm to 7 pm. The session was regarding various career opportunities, internship opportunities, higher studies options, placements, and scope of different central and state government exams.

MOTIVATIONAL TALKS

Induction Program for First Year Students

An Induction Program for first year students was held from 25.07.2019 to 29.08.2019 by the Trainers from ICT Academy of Kerala (ICTAK). They were given an overview of Engineering course and grooming on how to perform well in a professional course.



Curtain Raiser on COCON Cyber Security Conference

A Curtain raiser session on cyber security conference c0c0n XII was organised for final year students by Mr. Joby Joy, ISRA (Information Security Research Association) on 29.08.2019. The students were given an overview of the conference and were offered a subsidized rate.



Orientation on ASAP Courses

An orientation on newly introduced ASAP courses - Google ACE, UIPath Robotic Process Automation was given to S7 students on 21.08.2019 by Mr. Amith Narayanan, Program Manager, ASAP.



Motivational Session - 'Being Industry Ready'

The session was delivered by Mr. Denny S Dhar, Director, Casper Technologies for S7 and S5 students on 27.08.2019. He shared insights and his career experiences. We students also had an interactive Question and answer session at the end.



Orientation on ASAP - IBM courses

AN orientation on IBM courses under ASAP like Blockchain, IoT, Data Science and Business Analytics was conducted for S7 students by Mr. Dinesh Baliga, IBM for S7 and S5 students on 01.10.2019, providing insights on courses offered and mode of delivery. The course aims at certifying the students in given domains with placement assistance.



Motivational Session - "Career Development"

Motivational Session on "Career Development" was delivered by Mr. Aavind Das, UVJ Technologies (CSE Alumni) for S7 students on 05.10.2019. He gave an overview regarding the importance of pursuing activities relevant for grabbing knowledge on new technologies which is important for Career Development.



Orientation on Reboot Kerala Hackathon

An orientation session on Reboot Kerala Hackathon and TCS Certification programs was delivered by Mr. Amith Narayanan, Program Manager, ASAP for all semester students on 13.11.2019. It is **Kerala's biggest Hackathon series** with **22 hackathons** across the state under various domains.



Motivational Talk - 'Do Differently'



Mr. Jibin Jose, CEO and Co founder, FLIP, Rethink Foundation delivered a motivational talk - 'Do Differently' to S1 students on 24.01.2020. He shared his experiences as a student entrepreneur and urged the students to grab opportunities at the right time in their engineering life. He shared the importance of taking up challenges in the student life itself so that they can win a successful path in life.



Webinar on "Engineering Career: The Power to Empower"

An awareness session was conducted on 21st June 2020 from 5.00 pm to 6.30 pm. Mr Renjit Keshav, Leading Social and Political Analyst, Leadership Trainer and MD, Insight Job Guru delivered the session for school students across Kerala.

PLACEMENT TRAININGS / HIGHER EDUCATION

Placement Trainings

Placement training sessions were organised for final year students in aptitude training, reasoning, mock interviews and resume preparation by various training partners throughout the recruitment period, so that the students will be ready to crack aptitude tests and interviews for placements.



Campus Visit & Student Interaction by Indocosmo Systems Pvt. Ltd., Japan

The S7 and S5 students of CSE got an excellent opportunity to interact with Industry delegates from Indocosmo Systems Pvt. Ltd. Japan on 17.07.2019. The discussion was focused on their company profile, work life and recruitment process to their company in Japan.



GATE Awareness Session

Awareness session on GATE exam and its importance in higher education, research and in jobs was organised for S8 students on 06.02.2020 by ACE academy, Hyderabad. ACE Engineering Academy offers excellent coaching for GATE all across India. The session outlined the importance of GATE score in securing many public sector jobs as well as for higher studies.



SOCIAL COMMITMENT & EMPOWERMENT ACTIVITIES



TECHNICAL SOCIAL OUTREACH SESSION ON AI

Technical Social Outreach Session was conducted at Bhavans Munshi Vidyalayam, Thiruvankulam on Artificial Intelligence on 15.06.2019. Asst. Prof. Abin Oommen Philip along with Mr. Kailas handled the sessions on AI and also some small projects on AI so that the students can get inspired to try out new AI based projects.

EMPOWERING HOUSEWIVES IN COMPUTER EDUCATION



Department of CSE & IT, in association with NSS, UBA & CSI Cochin Chapter, conducted a two week free course on basic computer training for the housewives from 01.07.2019 to



15.07.2019. The participants were trained in basic computer usage, Microsoft office and internet. They were also familiarized with smart phone usage, and at the same time, given awareness on the security aspects of the smart world. B.Tech Students, Lab Instructors and CSE Faculty handled the sessions. Those who completed the course were presented with certificates.

AWARENESS SESSION ON "CAREER GUIDANCE AND ENTREPRENEURSHIP"

An awareness session on "Career Guidance and Entrepreneurship" was conducted at St. Stephens Higher Secondary School, Kothamangalam, for Plus Two Students by Asst. Prof. Ceira Sara Cherian and Asst. Prof. Eldhose P Sim on 03.01.2020.



TECHNICAL SOCIAL OUTREACH SESSION - LITTLE KITES INITIATIVE

Technical Social Outreach session as part of Little Kites Initiative was taken by



TIST CSE Dept. at St. Paul's Higher Secondary School, Veliyanad on 27.01.2020. Expert Sessions on Introduction to Robotics, Arduino using Python and Android Programming were taken by Abhay P A (S8 CSE) and Yadev (S8 CSE). Session on overview on professional engineering courses was delivered by Asst. Prof Ceira Sara Cherian and Asst. Prof Mithu Mary George.



TECHNICAL SOCIAL OUTREACH SESSION – KUTTY CODERS EVENT

Technical Social Outreach session as part of Kutty Coders Initiative was taken by TIST CSE Dept. at St. George's High School Arakkunnam on 29.01.2020 and 30.01.2020. Coding Sessions for school students were handled by I P Raghesh Kumar, Arya Anand, Nikitha Mariam Cherian, Prince Puthussery and Anju M Winny (CSE 2017-'21 batch).



BEST PROJECTS 2020

STELLAR ARM - A functioning, comfortable and affordable prosthetic limb for amputees to detect and pick various objects.

Team Members: Aiswarya Sen, Ann Mary Tom, Ashika Chinnu Shabu, Muhammed Sahil K
Project guide: Asst. Prof. Anuraj C K

AUTOBLOCK IoT - A blockchain based forensics framework for connected vehicles.

Team Members: Abhay P A, Jishnu N V, Meenakshi K T, Yaswanth P S
Project guide: Asst. Prof. Abin Oommen Philip



SBOX - Intelligent Automobile Blackbox - A system to predict and reduce road accidents, analyze traffic patterns & rash driving data and to create a visualization platform to monitor data.

Team Members: Yadev Jayachandran, Rahul Murali, Ansa N Varkey, Varsha Hari
Project guide: Asst. Prof. Ceira Sara Cherian

MOTOBOT - The Self Balancing Motorcycle

Team Members: Anjana P S, Malavika Girish, Mariya Paul, Mushtaq Sakkeer
Project guide: Asst. Prof. Rinu Rose George



PAPER PUBLICATIONS BY FACULTY / STUDENTS:

- **Asst. Prof. Saira Varghese**, "A Novel Method for Mapping Plaintext Characters to Elliptic Curve Affine points over Prime Field and Pseudorandom Number Generation" in the International Journal of Computer Information Systems and Industrial Management Applications, ISSN 2150-7988, Vol 12 (2020), June 2020.
- **Dr. N Viswanath**, "Multisensor Smart Robot for Border Security Surveillance with Human Action Prediction" in the International Journal of Innovative Technology and Exploring Engineering, August 2019.
- **Asso. Prof. Jesna Anver** published paper titled "Single-image super-resolution using online kernel adaptive filters" in the IET Image Processing, September 2019.
- **Abhima Prasad, Dr. Vishwanath N, Dr. Sreela Sreedhar, Saira Varghese**, "Encryption and Watermarking of Remote Sensing Images for Crop Insurance", International Research Journal of Engineering and Technology (IRJET) e-ISSN: 2395-0056 p-ISSN: 2395-0072, Vol: 07 Issue: 07 | July 2020.
- **Sruthi Suresh, Dr. Sreela Sreedhar, Dr.N. Vishwanath, Saira Varghese**, "An Improved Reversible Data Hiding In Encrypted JPEG Bitstreams", International Research Journal of Engineering and Technology (IRJET) e-ISSN: 2395-0056 p-ISSN: 2395-0072, Volume: 07 Issue: 07 | July 2020.
- **Resli Salam, Stephy John, Saira Varghese**, "Study on mobile learning applications for dyslexia and autism", IRJET, Volume 7-issue2, Feb 2020.
- **Akshay K N, Gopalakrishna Prabhu V A, Sharon Biji Easow**, "SmartBin", International Journal of Computer Science and Mobile Computing (IJCSMC) Volume 9 Issue 7 July 2020.
- **Anjana P S, Malavika Girish, Mariya Paul, Mushtaq Sakkeer**, "Study On Self Balancing Motorcycle Using The Concept of Reinforcement Learning", International Research Journal of Engineering and Technology (IRJET) Volume 07 Issue 04, April 2020, ISSN: 2395-0056
- **Ajil Jose, Arathi P, Joel Raphael, Joel Suresh**, "Human Activity Recognition for Alzheimer's Patient using Machine Learning algorithms", International Journal of Computer Science and Mobile Computing (IJCSMC) ISSN: 2320-088X (Online).

QUALITY IMPROVEMENT PROGRAMS

MoUs and Industrial Collaborations

The department holds MoUs with IT organizations and other institutes for imparting industry standard seminars, hands-on trainings & industrial visits.

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|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ol style="list-style-type: none"> 1. Infosys Technologies Ltd. 2. ICT Academy of Kerala (ICTAK) 3. Techno Lodge, Kakkoor, Piravom (The first rural IT park in Kerala) 4. Red Hat Academy 5. Oracle Academy 6. VSB Technical Univ, Ostrava, Czech Republic | <ol style="list-style-type: none"> 7. Additional Skill Acquisition Program (ASAP), Govt. of Kerala (<i>approved ASDC – Skill Development Centre</i>) 8. ICFOSS (International Centre for Free and Open Source Software) 9. C-DAC – FACE Academy 10. KBA (Kerala Blockchain Academy) |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

FACULTY – INTERNAL PARTICIPATION

- » All faculty from CSE department attended **2 days FDP on 'Introduction to BlockChain'** organized by the Dept. of CSE in association with KBA (Kerala BlockChain Academy) on 21st & 22nd June 2019.
- » All faculty from CSE department attended online webinar session "**IEEE Xplore Digital Library Training**" by Mr. Nanda Lal T S, organized in asso. with EBSCO Information Services India Pvt. Ltd. on 15th June 2020.
- » All faculty from CSE department attended **2 days FDP on 'IoT Protocols and Security'** organized by the Dept. of CSE on 29th & 30th July, 2020, in online mode.

FACULTY – EXTERNAL PARTICIPATION

CoCoN – Cyber Conference:

Dr. Sreela Sreedhar, Asst. Prof. Elsaba Jacob, Asst. Prof. Ceira Sara Cherian, and Asst. Prof. Rinu Rose George along with two B.Tech students and two M.Tech students participated in CoCoN XII, The Hacking and Cyber Security Briefing Conference held at Grand Hyatt, Kochi in September 2019.



EXTERNAL FDPs: *Total FDPs attended: 12*

- | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> » Asst. Prof. Elsaba Jacob and Asst. Prof. Leda Kamal attended 5 days FDP on 'Glide through Cognitive Computing' organized by the CSE Department of MACE, Kothamangalam in association with ISTE (sponsored by KTU) during 16 – 20 December, 2019. » Asst. Prof. Ashly Joseph and Asst. prof. Rinu Rose George attended 5 days FDP on "Internet of Things" at National Power Training Institute, Alappuzha from 16 – 20 December 2019. » Asst. Prof. Rinu Rose George attended 5 days online FDP on Data Science organised by ATAL Academy in association with IIIT Nagpur from 25 - 29 May 2020. » Asst. Prof. Rinu Rose George attended 3 days online FDP on 'R&D Approach to Industry 4.0' conducted by IES College of Engineering, Thrissur from 3-5 June 2020. | <ul style="list-style-type: none"> » Asst. Prof. Ceira Sara Cherian attended 3 days online FDP on "Devops and Cyber security ", organised by Department of CSE, St. Joseph's College of Engineering, Palai from 10-12 June 2020. » Asst. Prof. Ceira Sara Cherian attended 5 days online FDP on "Cyber Security: Tools & Techniques" organised by Sai Ram Engineering College, Chennai from 15-19 June 2020. » Asst. Prof. Leda Kamal attended 2 days online FDP on 'Bitcoin and Cryptocurrency in Blockchain Technology' from 20 – 21 June 2020. » Dr. Sreela Sreedhar attended 5 days AICTE FDP on 'Universal Human Values' from 20 – 24 June 2020. » Asst. Prof. Elsaba Jacob, Asst. Prof. Leda Kamal and Asst. Prof. Eldhose P Sim attended 3 days online FDP on 'Research Methodology and Scientific Writing' organised by Sree Buddha College of Engineering, Alappuzha, Kerala on 29 - 30 June, 1 July, 2020. |
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MOOC Courses:

- » Asst. Prof. Abin Oommen Philip completed 'Blockchain Architecture and Use Cases', IIT Madras NPTEL, Jul-Oct 2019. (12 weeks)
- » Asst. Prof. Abin Oommen Philip completed Coursera Blockchain Basics course (4 weeks).
- » Asst. prof. Saira Varghese completed 'GCP fundamentals' course by Coursera on 21.04.2020.
- » Asst. prof. Saira Varghese completed 'Essential Google Cloud Infrastructure and Foundation' course by Coursera on 05.03.2020.
- » Asst. Prof. Anuraj C K completed NPTEL Online Course 'Introduction to Industry 4.0 and Industrial Internet of Things', Jan-April 2020. (12 weeks)
- » Asst. Prof. Rinu Rose George completed NPTEL Online Course on 'Internet of Things', Jan-April 2020. (12 weeks)
- » Asst. Prof. Ashly Joseph completed Coursera course on "Cryptography and Information Theory" authorized by University of Colorado, 05.02.2020.
- » Asst. Prof. Leda Kamal completed Blockchain basics course (authorized by University at Buffalo and The State University of NewYork) by Coursera (4 weeks)

Seminars, Trainings and Workshops:

- **Dr. Sreela Sreedhar** attended Webinar sessions on Cyber Security and Employment Opportunity - ISEA (Information Security Education and Awareness) organised by CDAC (19.05.2020), Cyber Crimes against Women and Children – ISEA, by CDAC Hyderabad (20.05.2020), Disruptive Technologies – ISEA by CDAC (21.05.2020), Star Robotics Expert (01.06.2020)
- **Asst. Prof. Saira Varghese** attended Webinar sessions on Disruptive Technologies by CDAC (21.05.2020), Introduction to Blockchain Technology (25.05.2020), Star AI-Xpert (28.05.2020), Internet of Things (29.05.2020), Star Robotics Expert (01.06.2020).
- **Asst. Prof. Leda Kamal** attended Webinar sessions on Disruptive Technologies by CDAC (21.05.2020), Star AI-Xpert (28.05.2020), Introduction to Machine Learning (29.5.2020), Gear up for Software Development (29.05.2020), IoT (29.05.2020) and Star Robotics Expert (01.06.2020).
- **Asst. Prof. Elsaba Jacob** attended Webinar sessions on Cyber Security and Employment Opportunity by ISEA and CDAC (19.05.2020), Workshops on Web App Development and Hosting using Bootstrap organized by the IEDC & Dept of CSE, Sree Buddha College of Engineering, Alappuzha and Logix Space Technologies Pvt. Ltd. (21.05.2020) and GitHub for Beginners organized by LinkUrCodes - Logix Space Technologies Pvt. Ltd. (28.05.2020).
- **Asst. Prof. Abin Oommen Philip** attended Coursera Administrator Course (4 weeks) to enrol institute staff and students for free Coursera courses.
- **Asst. Prof. Ceira Sara Cherian** attended Webinar sessions on Star IoT-Specialist (29.05.2020), Star IoT Security (02.06.2020), Cyber Security 4.0 organised by Knowledge Exchange Community (05.06.2020), Python in Research Labs organised by Dept. of CSE of K. Ramakrishnan College of Engineering (24.06.2020) and Online National Level Workshop on "Python Programming-Intermediate" organised by Department of CSE, JAIN University (07.06.2020).
- **Asst. Prof. Ashly Joseph** attended Webinars on Browser Exploitation Framework (19.05.2020), Introduction to Data Science by LinkUrCodes (27.05.2020), Star IoT-Xpert (02.06.2020), Cyber Security 4.0 (05.06.2020) and 3 days coding series on web App development using Node JS and Hosting by LinkUrCodes (04.06.2020 onwards)
- **Asst. Prof. Rinu Rose George** attended Webinars on Machine Learning hosted by IETE Mumbai, Pantech (02.05.2020), Development of Covid 19 Related Technologies & Dissemination through online Platform (16.05.2020), Browser Exploitation Framework (19.05.2020), Introduction to Data Science by LinkUrCodes (27.05.2020), Star IoT Security Specialist (29.05.2020), Star Robotics Expert (01.06.2020) and Star Expert IoT Specialist (02.06.2020).
- **Asst. Prof. Mithu Mary George** attended Webinar sessions on Browser Exploitation Framework (19.05.2020), Digital Investigation and Cyber Forensics (29.05.2020), Introduction to Machine Learning by LinkUrCodes (29.5.2020), Gear up for Software Development (29.05.2020) by IES College Thrissur, Star IoT-Security (02.06.2020), Star IoT-Xpert on (02.06.2020), 3 Day coding series using Node js by LinkUrCodes (04.06.2020), International Webinar on "How to get Research Grants" by MBITS (09.06.2020) and 3 days International webinar on Communicative Skills by ASAP, TCS and MBITS (28-30 June 2020)
- **Asst. Prof. Anuraj C K** attended 2 days workshop on LoRaWAN for Open IoT conducted by ICFOSS from 11 – 12 November 2019 at ICFOSS, Thiruvananthapuram.
- **Asst. Prof. Eldhose P Sim** attended Webinar sessions on Career Opportunities Blockchain, organised by Blockchain Club, Saintgits (30.05.2020), National Webinar on The future of Engineering Education by NIT Warangal, VSSC, ISRO & MBITS (30.05.2020), International Webinar on Communicative Skills for Engineering students and faculty by MBITS in association with TCS and ASAP (28-30 June 2020).

STUDENTS –EXTERNAL PARTICIPATION

Total Students Participated: 57

Participated in IITs/Outside State/Govt. aided institutions: 18

CSE Students at WING - Women Rise Together workshop at Technology Innovation Zone 03.02.2020



CSE students attended Hyperledger India Chapter National e-Meetup at Maker Village, Kochi on 20th July 2019

Sl. No.	Name of Students	Name of the Institution/ Organization	Event Type	Date	Winner/ Participated	Count
2019 Adm						
1	R Sreelakshmi, Anjana Anil, Janaki Sindhu Nair, Kiran R, Nandita Susan Cherian, Arathi P Kumar	Mar Athanasius College of Engg. Kothamangalam, Dept of ECE	IOT Workshop	23/08/2019	Participated	6
2	Krishna R, Lakshmi Sathyakumar, Lina Anil, Minal Shibu, Seba Abraham. Steve Varghese	Mar Athanasius College of Engg. Kothamangalam, Dept of ECE	Beginner's Python Workshop	23/08/2019	Participated	6
3	Abhinav P Sathyan, Alan Martin, Alan Paul Amal Jacob, Amarnath S, Joseph Alan, Kevin Bobby	Indian Institute of Technology Palakkad (Entrench Electronics)	Cyber Security and Cyber Forensics Workshop	24/08/2019 25/08/2019	Participated	7
4	Nimiya Paul, Rachel Rajan, Smruthy Jenson	Indian Institute of Technology Palakkad	Block Chain Workshop	24/08/2019 25/08/2019	Participated	3
5	Amal Das M, Nikhil Philip, Mohammed Karthik, Sangeeth Shaji	MA College Kothamangalam	Tek-Talk "What after Engineering"	11/10/2019, 12/10/2019	Participated	4
6	Keerthana Jayalal	Cyber X Securities at MA College Kothamangalam	Cyber Security and Ethical Hacking Workshop	11/10/2019, 12/10/2019	Participated	1
2018 Adm						
1	Aiswarya Raj, Janet S Ayda Sara Shaji	ICFOSS Training Centre, Sports Hub, TVM	3 day Workshop on Machine Learning	11/10/2019- 13/10/2019	Participated	3
2	Yadhu Krishnan K.A, Sanju Thomas, P. Jathin Johny, Anakha S Lekshmi, Swathy T Nair, Nazia Nazirin K Z, Anagha Sreekumar	IIT Madras	Internet of Things Workshop	13/10/2019	Participated	7
3	Tejus K	MACE Kothamangalam	TEK-TOK (What is after Engineering)	11/10/2019- 12/10/2019	Participated	1
4	Shawen Sallace, Vishnu Jayakumar	Spectrum Softtech Solutions	Android Workshop	13/09/2019	Participated	2

2017 Adm						
1	Aleesha Antony Vyshnavy O A Surayya Yousaf	ICFOSS Training Centre, Sports Hub, TVM	3 day Workshop on ML	11/10/2019- 13/10/2019	Participated	3
2	Aleesha Antony, Kesia Philip, Surayya Yousaf Arya Anand, Dakshina Nitin, Raghesh Kumar, Sarang Ravikumar, Vyshnavi O A	Kochi women start up weekend event- Techstars in partnership with Google for Startups	Startup Weekend event	15/03/2019 17/03/2019	Participated	8
3	Aleesha Antony, Darsana Venu, Vyshnavy O A	Kerala Startup Mission	India Innovation Series - Hackathon	6/07/19 7/07/19	Participated	3
4	Roshan Jacon	Kaashiv Infotech	Digital Marketing Workshop	26/07/2019	Participated	1
5	Vyshnavy O A	Anthill Inside/ HasGeek.com, Bangalore	Conference on hubs and spokes of AI	24/07/2019	Volunteer	1
6	Kesia Philip	Mount Zion Institute of Science & Tech., Chengannur	Workshop on Cloud Computing	18/11/2019	Participated	1

IEDC EVENTS AND STUDENT SUMMITS



PSS 2020: S Sidharth, Vishnu Jayakumar, Thushar Kiran S D (2018-'22 Batch) along with Asst. Prof. Eldhose P Sim attended Professional Student Summit (PSS) 2020 at CUSAT on 15-02-2020. It was an initiative by the Government of Kerala as a conclave of professional students from different streams.



IEDC SUMMIT 2020: 11 Students from CSE with Asst. Prof. Eldhose P Sim attended IEDC Summit held at Trissur.

ONLINE / MOOC COURSES

MOOC Courses – 49	
2016 Adm	19
2017 Adm	15
2018 Adm	4
2019 Adm	2
M.Tech	9

INTERNSHIPS – STUDENTS

Internships – 79 students	
2016 Adm.	7
2017 Adm.	18
2018 Adm.	43
2019 Adm.	7
M.Tech	4

INDUSTRIAL VISITS

- ★ **B.Tech THIRD YEAR - Goa Broadband Network (05-10-2019)**
- ★ **B.Tech SECOND YEAR - FABLAB, Kochi (23-10-2019)**
- ★ **B.Tech FIRST YEAR - Social Visit to Hill Palace (08-8-2019)**



BEST PRACTICES

STUDENT INTERNSHIPS:

All students of 1st, 2nd & 3rd year B.Tech and 2nd year M.Tech undergo internship trainings in reputed companies during their semester break. This gives them an exposure to live industry scenario.

CLASS COMMITTEE MEETINGS

Class committee meetings are conducted regularly in every semester for all the batches. This is an interaction program with the student representatives and faculty, so that feedbacks can be assessed regularly and action plans can be taken up.

PTI MEETINGS

Parent Teacher Interaction meetings are conducted once in a semester for all the batches. The activities and achievements of the department are briefed to the parents during this meeting. One to One meeting with teaching faculty is also arranged to keep track of the performance of their wards so that proper follow up actions can be

taken. Feedback from parents on academics and infrastructure are collected for continual improvement.

FEEDBACK MECHANISM

The department follows online feedback mechanism. The feedbacks for each subject are taken twice a semester to assess the faculty performance. Infrastructure feedback is also taken to assess the infrastructure provisions.

GROUP ADVISORY & SPECIAL MENTORING

Department follows group advisory system for effective mentoring of students. The students of each class are divided into groups and a teaching faculty is assigned as mentor for their support. Special Mentors are also provided for under performers and constant monitoring is being done. Meeting with Principal is arranged for Toppers as well as Low performers once in a semester, so that their problems if any can be solved effectively. Counseling and Psychology department of TIST provides further assistance in mentoring.

NEW FACULTY



Mr. Eldhose P Sim



Ms. Sreeja M U



Mr. Sajith P J



Ms. Kavya Kishore

LI-FI, TECHNOLOGY INDUCED WITH LIGHT



We have LEDs in streetlights in cars and offices in homes. Now, imagine that these LEDs connect to the internet. Imagine a world where light becomes data! Li-Fi is simple, but powerful. We all know how a light bulb works. When an electrical current is applied to an LED light bulb, a constant stream of light is emitted from the ball, which we see as illumination. Since LED bulbs are electronic devices, the current and therefore the light can be modulating at extremely high speeds. This can be detected by a photo detector and converted back to electrical current, therefore carrying data. This is the nervous system of an internet revolution.



ROSHAN MATHEWS, S3 CSE

Li-Fi is a wireless optical networking technology. Specifically, it is a form of visible light communications (VLC) system that makes use of light-emitting diodes (LED) for data transmission. Li-Fi is the only form of VLC that allows the bidirectional transmission of light. However, instead of the radio spectrum, it makes use of the visible light spectrum through LED lightbulbs outfitted with a special chip.

Li-Fi offers great density than many other radio frequency solutions. For eg., if you have an average Wi-Fi router that provides up to 100 Mbps, and 15 people are connected to that router, it means that you might only be able to access 4 Mbps. However, with a Li-Fi network of lights that offer 42 megabits per light. Even if you had only eight lights in your room, those same 15 people could share more than 300 Mbps. That's dense and fast wireless communication. Real Li-Fi is also bi directional, full duplex and high speed. Data is transmitted and received at the same time, resulting in a really fast, reliable user experience, especially when doing things like Skype calls, video streaming and virtual reality. Real Li-Fi is fully networked. That means all the lights in your Li-Fi network can speak to each other, and handover as you move around any Space. Each light even has its own IP address, which means that you can offer location tracking and geo fencing within your network.

In so many ways, Li-Fi is considered more superior to Wi-Fi. Data transmission tests have reached speeds of up to 224 Gbps, roughly 100 times faster than Wi-Fi. While these were only lab tests, speeds at even a small percentage of that figure in the real world still indicate having a significant advantage over Wi-Fi. The visible light spectrum is also broader as opposed to RF – about 10,000 larger than the entire radio frequency spectrum. This is crucial especially with the data demands of today. It provides many available frequencies to which tasks can be offloaded, freeing up much-needed space for 5G.

Li-Fi uses visible light as a medium for the transmission of data. As a type of VLC system, it requires two components: a photodiode and a light source. The photodiode acts as a transceiver that receives light signals and transmits them back. The light source transmits data using emitted light as the medium. In this case, light emitting diodes (LED) serve as the light source. They are outfitted with a chip that serves as the signal processing unit. LED light bulbs are semiconductors. This means current supplied to the bulb can be modulated, which in turn, modulates the light they emit. This process occurs at extremely high speeds that are unperceivable to the human eye. Data is fed into the light bulb and sends the data at extremely high speeds to the photodiode. It converts the data received into a binary data stream perceivable by humans such as video and audio applications.

How data is transmitted over light?

To send data over light, Li-Fi systems require a strong, robust light source like LED bulbs. LEDs are different from halogen or filament bulbs as they do not need to warm up. As previously stated, they are semiconductors. They start up quickly and emit light according to the current passed through them. Within the light, the intensity of the colours red, green, and blue (RGB) is finely modulated to embed data into the LED light. (Again, this process is undetectable to the naked eye.) This fine modulation of RGB can be better described as a form of code. Once the light is received by a photodiode, the light is demodulated. The information received is either relayed to a cloud server or transcribed by the receiver itself. Content is then displayed according to the code obtained.

Li-Fi vs Wi-Fi: With the impressive speeds of Li-Fi, it is poised to make an even bigger impact than Wi-Fi. Here are several advantages Li-Fi can offer over Wi-Fi – Speed, Versatility, Cost, Availability and Security. Let's aim for a world where light becomes data. Li-fi, a world with unprecedented data and bandwidth being a part of the light revolution.



PLACEMENTS 2020

DEPT. OF COMPUTER SCIENCE & ENGINEERING
PLACEMENTS - 2016-'20 batch

Infosys
Navigate your next



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PLACEMENTS - 2016-'20 batch

TATA CONSULTANCY SERVICES



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PLACEMENTS - 2016-'20 batch

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Presenting Future



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PLACEMENTS - 2016-'20 batch

Cognizant



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DEPT. OF COMPUTER SCIENCE & ENGINEERING
PLACEMENTS - 2016-'20 batch

H&R BLOCK



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PLACEMENTS - 2016-'20 batch

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Technology



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PLACEMENTS - 2016-'20 batch

fact weavers
Weaving Digital Solutions



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PLACEMENTS - 2016-'20 batch

QUEST
BORN TO ENGINEER



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PLACEMENTS - 2016-'20 batch

SUTHERLAND
GLOBAL SERVICE



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PLACEMENTS - 2016-'20 batch

amazon



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PLACEMENTS - 2016-'20 batch

UJV TECHNOLOGIES



Toc H INSTITUTE OF SCIENCE & TECHNOLOGY
A NAAC ACCREDITED INSTITUTE WITH NBA ACCREDITED PROGRAMS

DEPT. OF COMPUTER SCIENCE & ENGINEERING
PLACEMENTS - 2016-'20 batch

Hexaware
TECHNOLOGIES



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CSAT - CSI STUDENT COORDINATORS 2019-'20:



- ★ Mr. Yadev Jayachandran (CSI TIST - Secretary)
- ★ Ms. Vyshnavy O A (CSI TIST - Joint Secretary)
- ★ Ms. Thara Jose (CSAT - Secretary)
- ★ Ms. Arya Anand (CSAT - Joint Secretary)



ആരക്കുന്നം ടോക് എച്ചിന് ദേശീയ പുരസ്കാരം

കേരളത്തിലെ വിവിധ സ്കൂളുകളിലെ വിദ്യാർത്ഥികൾക്ക് അഭിനന്ദനങ്ങൾ അർപ്പിക്കുന്നതിനായി കേരള സർക്കാർ സംഘടിപ്പിച്ച 'കേരള സർക്കാർ വിദ്യാർത്ഥികൾക്ക് അഭിനന്ദനങ്ങൾ അർപ്പിക്കുന്നതിനായി' എന്ന പേരിൽ നടന്ന വാർഷിക സമ്മേളനത്തിൽ പങ്കെടുത്തുകൊണ്ടിരിക്കുന്ന വിദ്യാർത്ഥികളുടെ ചിത്രം.

ആരക്കുണം ടോക് എച്ച്
കോളജിന് പുരസ്കാരം

[illegible]

TIST gets nod for new courses

Toc-H Institute of Science and Technology (TIST) at Arakunnam has received approval for its new courses. The All India Council for Technical Education (AICTE) and the Kerala Technical University (KTU) have given the nod for new skill-oriented and job oriented courses. The new courses that have received the nod are BTech Electrical and Computer Engineering and MTech in Data Science. Besides, the college has also received approval to increase the seat capacity by 50 per cent for the BTech Computer Science following huge demand.

ശ്രീതൃക്കളുടെ ആക്രമണം: നിമിഷം
നോബോർട്ടുലായി ടോക് എച്ച് വിദ്യാർത്ഥി

ടോക് എച്ച്-ൽ
പുതിയ
കോഴ്സുകൾക്ക്
അനുമതി

[illegible]

നവകേളെ വികസനം: റീബ്രൂട്ട് കേളെ ഹാക്കനേജ്
ചരിത്രവും - പ്രതി കെ.ടി. ജലീൽ

വനിതകൾക്ക് സൗജന്യ

ടോക്-എച്ച് കോളജിൽ അസാധാരണ വികസനകേന്ദ്രം

[illegible]

**സൗജന്യ കമ്പ്യൂട്ടർ
കോഴ്സ്**

ആക്കുന്നു. സ്കൂൾ ശാക്തീകരണ പ്രവർത്തനങ്ങളുടെ ഭാഗമായി ആർക്കിന, ഓടൻ ഏഴ് എഞ്ചിനീയറിംഗ് ഇൻസ്റ്റിറ്റ്യൂട്ട് ഓഫ് സയൻസ് ആന്റ് ടെക്നോളജിയിൽ വരികകൊണ്ട് ചിറക്കുവട്ടം കമ്പ്യൂട്ടർ മോഡൽ 18 മുതൽ 20 വരെ നടക്കും. കോഴ്സിന് കമ്പ്യൂട്ടർ സഞ്ചാരി ഡിപാർട്ട്മെന്റിലെ അധ്യാപകർ

ആരക്കുന്ന്. • ടോക്-എച്ച് എൻ ജിനിയറിങ് കോളജിൽ കമ്പ്യൂട്ടർ സയൻസ് വിഭാഗത്തിന്റെ നേതൃ ത്വത്തിൽ സ്പ്രി ശാക്തീകരണ പ്രവർത്തനങ്ങളുടെ ഭാഗമായി ജൂലൈ 1 മുതൽ വനിതകൾക്ക് സൗജന്യ കമ്പ്യൂട്ടർ കോഴ്സ് നടത്തും. ആദ്യം രജിസ്റ്റർ ചെയ്തവർക്ക് 50 ശതമാനം ഡിസ്കൗണ്ട്.

ആകുരുന്ന, ട്രാഫ്-എച്ച് എൻസിനെയുടെ കോളനിൽ സൗജന്യ ഭക്ഷണവും മിഷനുവേണ്ടിയുള്ള ഉപകരണങ്ങളും വിതരണം ചെയ്യുന്നതിനെക്കുറിച്ചായിരുന്നു ചർച്ച. ഇവരുമായി സംസാരിച്ച സിബിസിയിലെ മുഖ്യ പ്രതിനിധികൾ, ജോലിക്കാരും, ഗവണ്മെന്റ്, സ്വാമിഗ്രൂപ്പുകളുമായും, സ്വാമിഗ്രൂപ്പിലെത്താൻ, സ്വാമിഗ്രൂപ്പിൽ താല്പരരായ, കുടുംബശ്രീ വൈദ്യൻ എന്നിവർ പങ്കെടുത്തു.

Design: Mr. Arjun T Jinen (S5, CSE)

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Ms. Arya Anand (S7, CSE)

**CSAT – Computer Science and Engineering
Student's Association of TIST**

CSI TIST Student Branch



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