



COMPUTER SOCIETY OF INDIA

TIRUCHIRAPPALLI CHAPTER

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OCT - DEC, 2019

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CHAIRMAN'S DESK



Dear Members,

Warm & Best Greetings to all.

Very happy to meet all of you through our CSI Tiruchirappalli E Newsletter.

It is a great pleasure for me to appreciate that the editorial team of CSI-Tiruchirappalli Chapter in bringing out the third issue for this financial year 2019-2020 by taking lot of initiatives with lot of Technical programmers.

In association with The Institution of Engineers(India), Tiruchirappalli Local Centre, we have carried out 6 Lecture programmers, with K. Ramakrishna College of Engineering 4 programmers, with MAM College of Engineering one programme, with Jamal Mohammed College 2 programmers, and with Mount Zion College of Engineering one Programme.

I am very glad to note that Jamal Mohamed College has conducted an International Conference on Advanced Computing (ICAC 2019). My special Appreciation Dr. T. Abdul Razak, Immediate past Chairman for taking initiative to conduct ICAC 2019.

We are planning to cover many emerging CS & IT Topics in the forthcoming months. I request all the members to attend the forth coming technical programs & get benefitted. Our CSI Tiruchirappalli Chapter is an active one. I request all the members to participate & disseminate the same to all the relevant institutions & get benefitted. I request all our members to motivate your friends & Colloquies to attend our technical programmes.

I request all our members to motivate new members to join our CSI to increase our strength. We are requesting, Expediting & trying to motivate all the engineering colleges, Arts Colleges and polytechnics in our zone to establish student chapters

We solicit your support to make our Chapter to be the best to disseminate the Computer Science and Information Technology to this part of our country.

With Best Wishes,

Er. R. Selvaraj
Chairman CSI Tiruchirappalli

EDITORIAL

CSI Trichy Editorial Team proudly compiled many events organized during this 3rd Quarter. Decentralized Supply Chain Management, Block-Chain Technology, Harmful effects of cell phone radiations, Digital CMOS VLSI design, Automation & Autonomy Present and future, free lectures were conducted jointly with IEI-TLC.

Usage of cell phone has become inevitable now-a-days, but Cell phone users should remember that extensive & prolonged usage will create health problems owing to exposure towards radiations. In this context this session was useful.

MAMCE, Trichy FDP was well received with more than 50 participants from various institutes/colleges approved by AICTE and affiliated to various Universities across Tiruchirappalli. Dr. Ravimaran past Chairman played a dynamic role in Organizing this event.

Session enabled to understand the significance of alignment amongst the fundamental elements of Big Data Analytics.

Inter-Collegiate Technical Symposium, Organized by Jamal College Trichy which is an another notable event. As many as 250 students from 23 Arts, Science & Engineering Colleges and Universities participated in the symposium.

Mount Zion College of Engineering & Technology (MZCET), Pudukkottai the one day workshop on Raspberry PI, was well gathered by more than 30 participants.

KRCE have organized many interesting & useful events for the students namely Internal Coding Contest' 2K19, Value Added Course on Data Analytics and IOT, besides Technical guest lectures on AdHoc and Sensor Networks, Cryptography and Network Security.

With Regards

Editorial Team
CSI Tiruchirappalli Chapter

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VENUE:

- ❖ IEI-TLC-Institute of Engineers (Opp to bldg.79, BHEL Tiruchirappalli)
- ❖ MAMCE-MAM College of Engineering, Siruganur, Tiruchirappalli.
- ❖ JMC-Jamal Mohamed College, Trichy
- ❖ KRCE-K. Ramakrishna College of Engineering, Trichy
- ❖ MZCET- Mount Zion College of Engineering & Technology, Pudukkottai.

LECTURES

DECENTRALIZED SUPPLY CHAIN MANAGEMENT

On 29th October 2019, CSI Trichy & IEI organised a free lecture programme on “Decentralized Supply Chain Management”.

Mrs. M. J. JEYASHEELA RAKKINI, Assistant Professor, CSE Dept., Sastra Deemed University, Thanjavur had delivered this lecture.



Er. R. Selvaraj, Chairman, CSI Tiruchirappalli Chapter handing over the Gift cover to the Speaker.

NUTRACEUTICALS REVOLUTION



On 5th November 2019, the centre organised a free lecture programme on “Nutraceuticals Revolution”.

Dr. M. Vijayalakshmi, Assistant Professor, Dept. of Pharmaceutical Technology, Anna University, BIT Campus, Trichy delivered this lecture.



Er R. Selvaraj - Chairman - CSI Tiruchirappalli chapter gives his Felicitation address after the speaker's Talk

AUTOMATION AND AUTONOMY

On 12th November 2019, the centre organised a free lecture programme on “Automation And Autonomy”.

E.R.Rajkumar Founder, Rignova (A Cloud Application Company) delivered this lecture.



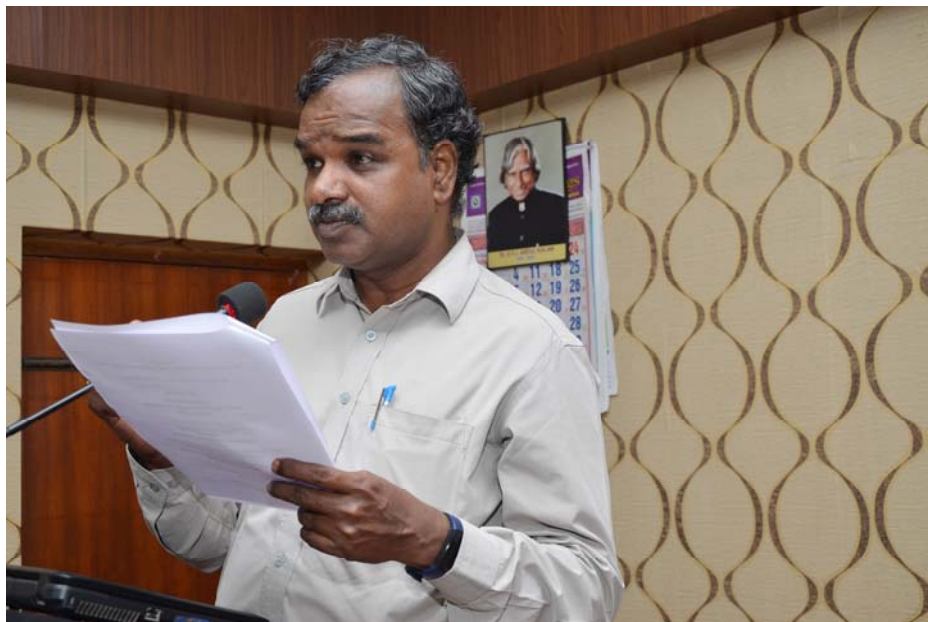
Er D. Senthil Kumar Honorary Secretary, CSI Tiruchirappalli Chapter along with Er A. Anand, MC Member handing over Gift cover to the speaker

DIGITAL CMOS VLSI DESIGN



On 19th November 2019, the centre organised a free lecture programme on “Digital CMOS VLSI Design”.

Ms. V. Kavitha, Assistant Professor, M.A.M. College of Engineering and Technology, Siruganur, Trichy delivered this lecture.



Er S. Lakshmanan, Nomination Committee MC member conducting the proceedings as the Master of Ceremony

CELL PHONE RADIATIONS & ITS EFFECTS



On 26th November 2019, CSI Trichy organised a free lecture programme on “Cell Phone Radiations & its Effects”.

Dr. E. Vinodha, Assistant Professor, MAM College of Engineering, Siruganur, Trichy delivered this lecture.



Er D. Senthil Kumar ----Honorary Secretary, CSI Tiruchirappalli Chapter, Er S. Lakshmanan ----Nomination Committee MC Member & Er A. Anand are actively listening the Lecture

THE BLOCKCHAIN TECHNOLOGY

On 10th December 2019, CSI Trichy organised a free lecture programme on “**The Block Chain Technology**”.

The Block chain is defined as an open ledger that offers decentralization to the parties. In addition, it also offers transparency, immutability, and security. It has many features including being open, distributed, ledger, P2P and permanent.



Dr. R. Sumathi, Professor and Head Information Technology, Saranathan college Engineering, Tiruchirappalli is giving the presentation.

Er. K. Ramadoss Former General Manager BHEL-Trichy-14 is presenting a Memento to the Lecturer in the presence of Er. A. Anand, Executive Committee member CSI Trichy.



GUEST LECTURE ON ADHOC AND SENSOR NETWORKS

On 3rd October 2019, K. Ramakrishna College of Engineering organised a guest lecture programme on “AdHoc and Sensor Networks”.

GUEST LECTURE ON CRYPTOGRAPHY AND NETWORK SECURITY

On 5th October 2019, K. Ramakrishna College of Engineering organised a guest lecture programme on “Cryptography and Network Security”.

INTERNAL CODING CONTEST'2K19

The internal coding contest 2k19 organised by the KRCE student chapter attracted 95 participants and the events was hosted at the college premises in association with our chapter.

VALUE ADDED COURSE ON DATA ANALYTICS AND INTERNET OF THINGS

A four days value added course on “Data Analytics & IOT” was organised by KRCE Student chapter in association with the chapter. 113 students of 3rd year CSE attended the course and got benefitted.



AICTE SPONSORED FDP ON INTELLIGENT BIG DATA

Computer Science and Information Technology departments of M. A. M. College of Engineering, Siruganur, Tiruchy, in association with the CSI Tiruchirappalli chapter conducted a 14-day Faculty Development Programme on “Intelligent Big Data Analytics” from 18-30 November 2019.

The FDP program received an overwhelming response with more than 50 participants from various institutes/colleges approved by AICTE and affiliated to various Universities across Tiruchirappalli. The event was inaugurated with Lighting of the auspicious Lamp by Dr. S. Ravimaran, Principal MAMCE and our past chairman and the Resource Person Dr. S. Swamynathan, Anna University, Chennai.

The main objective behind organizing this FDP was to understand the significance of alignment amongst the fundamental elements of Big Data Analytics. The focus was to provide a comprehensive overview of a broad range of data analysis method.

The resource persons of the event were scholars from various educational institutions and corporate viz., Dr. S. Swaminathan, Anna University, Chennai, Dr. S. Nicolas, NIT, Tiruchirappalli, Dr. G. Manju barkavi, NIT, Tiruchirappalli, Dr. E. Kirubhakaran, Professor & Head, Karunya University, Dr. R. Sasikala, VIT, Vellore, Dr. A. Vadivel, SRM University, Mr. Marimuthu, Research Scholar IIT Surathkal, Dr. Prabhakaran. N, VIT, Vellore, Dr. Usha Divakarla, Karnataka, Prof. Saravanan, MAMCE, Dr. K. Chandrasekaran NIT, Surathkal and Dr. J. Naveen Christ University, Bangalore explained the importance of the new emerging technologies and the tremendous growth of database in various sectors like banking, social media, and applications.

Dr. Swamynathan talked on “The complete framework on Intelligent Big Data Analytics”. In his lecture, he discussed in detail about Introduction to BigData, Big data platforms, Hadoop ecosystem, Big data and machine learning, Inmemory big data platform – Spark, Linked big data, Big data visualization, Project presentations, etc.

Dr. S. Nicolas talked about “Machine Learning in Big Data”. He discussed in detail about Machine Learning system model, Training and testing, Algorithms, Machine learning structure, Learning techniques, Applications, Classification, Clustering, Predictive Models and Deep Learning

Dr. G. Manju barkavi handled the session on “Introduction of Remote Patient Monitoring”. She discussed in detail manner about the wearable technologies, Sensors in wearables, Internet of Medical Things, Big Data Transforming RPM, Bottlenecks of RMP. She concluded that RPM transform the patient experience with wearables, provide greater control over health outcomes.

eDiagnostic devices should be able to analyze untreated biological samples; therefore, the performance of the devices should be evaluated using untreated samples or preferably clinical samples.

In this lecture, on “Learning from Big Data” Mr. R. Swamy Sriharsha discussed in detail manner about the Artificial Intelligence, Machine Learning and Deep Learning.





In her lecture on “Map reduce programming using MongoDB “, Dr. R. Sasikala explained about the features of MongoDB followed by its installation, aggregation function, MapReduce function and Sharding with the demonstrations in step by step manner. She ends up the session with the feedback.

The participants visited the Technology Business Incubation (TBI) Centre at SASTRA University, Thanjavur. There they had given demonstration about 3D printing, Internet of Things especially about Drone & Home Automation, Virtual Reality & Augmentation.

The lecture on “Data Science: Web Data Analytics” was given by Dr. A. Vadivel. He explained about importance of web analytics, how the web data can be analyzed, Tools for web data analytics, web crawlers, uses of web crawling and finally discussed about page ranking algorithms and related examples.

Mr. Marimuthu gave a brief introduction on software Engineering, Data Analytics, how to mine and generate software dataset in stack overflow and GitHub.

During the visit to Siemens Centre of Excellence, NIT, Tiruchy by the participants, demonstrations on 3D printing, Modular Automation Production System (MAPS 6S), and on IoT were given.

In the session on Educational Psychology or Pedagogy, Prof. S. Saravanan spoke about mindset of today’s 21st generation students. He explained about the necessity of acquired knowledge of every teacher concerning pedagogy to perform in his/her teaching profession so effectively.



Dr. Usha Divakarla, spoke on Artificial Intelligence Techniques in Big Data. This session focused on the relationship between artificial intelligence and big data through extract knowledge from new data driven knowledge sources. She delivered talks on role of Machine Learning, a subset of artificial intelligence in Big Data. The deliberation focused on Machine learning steps in Big Data Technologies of Cogs and Gats, Cogs and Gats Publish and Subscribe. The primary focus of this deliberation is that how Artificial Intelligence Techniques can be implemented in Big Data.

Dr. K. Chandrasekaran spoke on “Optimization of Techniques for Big Data Analytics”. This session focused on the optimization of artificial intelligence techniques in big data through extract knowledge from Operational Research Programme. He delivered talks on Multidisciplinary Design Optimization (MDO). The deliberation focused on Big Data Systemic View Models. The primary focus of this deliberation is that Big Data Systems and Optimization, perspectives of Big Data Analytics.

Dr. J. Naveen spoke on Challenges ahead for Big Data Analytics. He consolidated about Big Data and focused on challenges ahead for big data in a brief manner.

The FDP was concluded with the valedictory function on 30.11.2019. The session started with the Evaluation through Assessment Test. Few participants shared their wonderful experience during the FDP. Participation certificates were distributed to the participants by Dr. J. Naveen. Dr Ravimaran, distributed prizes to winners of Assessment Test and proposed vote of thanks.

SWAP 2K19 (INTER COLLEGIATE TECHNICAL SYMPOSIUM)



The chapter joined hand with the Department of Computer Science of JMC to organise an Inter Collegiate Technical Symposium SWAP 2K19 on October 3 – 4, 2019. The inaugural function was held on 3rd October 2019 at 9.00 a.m. Mr. Chengodan Ekanarendran, Delivery Manager, IBM India Private Limited, Chennai, inaugurated SWAP 2K19 and addressed the gathering.

The events like Bug War, Mine Hunt, SQL, Adzap, Code Reveal, Stress Management, Mind Fizz, PPT, Meme Time, Design Freaks, Extempore, Word Hunt, Multimedia, etc. were conducted.

As many as 250 students from 23 Arts, Science & Engineering Colleges and Universities participated in the symposium. The prizes and merit certificates were distributed to the first and second place winners. The Overall Championship of SWAP 2K19 was bagged by Thiagarajar College of Engineering, Madurai

INTERNATIONAL CONFERENCE ON ADVANCED COMPUTING (ICAC 2019) ANALYTICS

On 11th and 12th December 2019, the Department of Computer Science of JMC conducted a two day, International Conference on Advanced Computing (ICAC 2019) in association with CSI Tiruchy chapter and the student chapter of JMC. Dr. Md. Shohel Sayeed,

Associate Professor, Faculty of Information Science and Technology, Multimedia University, Malaysia, inaugurated the conference. Earlier, Dr. G. Ravi, HOD, DCS, welcomed the gathering. A CD containing Selected Research Articles published in the Scopus Indexed International Journal of Recent Technology and Engineering was also released during the inauguration.

During the occasion, JMC entered into an MOU with Multimedia University, Malaysia. Post inauguration, he also delivered a technical talk on “The Fourth Industrial Revolution: A Global Revolution in Science, Technology & Society”. This was followed by a technical talk by Dr. P. Jaganathan, Professor & Head Department of Computer Applications, PSNA College of Engineering and Technology, Dindigul, on “An Evolutionary Approach for Research in Data Mining.”

Dr. A. Padmapriya, Associate Professor, Department of Computer Science, Alagappa University, Karaikudi, delivered the technical talk on “Research Trends in Machine Learning” for the benefit of the delegates. Dr. S. Kother Mohideen, Principal, Research Head, Sri Ram Nallamani Yadava College of Arts and Science, Tenkasi, delivered a technical talk on “Emerging Research Topics in TPU Cloud Based Image Segmentation”



Dr. D. Muhammad Noorul Mubarak, Head, Department of Computer Science, University of Kerala, Thiruvananthapuram, Kerala, delivered a technical talk on “CNN and Transfer Learning” and Dr. V. Pattabiraman, Professor, School of Computer Science & Engineering, Vellore Institute of Technology (VIT), Chennai, delivered a technical talk on “Curing the Curse of Dimensionality in Natural Data using Machine Learning / Deep Learning”.

Dr. A. K. Khaja Nazeemudeen, Secretary and Correspondent, delivered the valedictory address of ICAC 2019 on 12th December 2019 and appreciated the organisers for their efforts in making the event a successful one.

WORKSHOP ON RASPBERRY PI

Raspberry Pi is the theme of the one-day workshop conducted at the Mount Zion College of Engineering & Technology (MZCET), Pudukkottai in association with our chapter. The event which was conducted on 23rd December 2019, was attended by more than 30 participants.



TECHNICAL ARTICLES

BLOCKCHAIN TECHNOLOGY

Dr.R.Sumathi, Professor

Head of Information Technology,

Saranathan college
Tiruchirappalli



THE BLOCKCHAIN TECHNOLOGY

“The blockchain is an incorruptible digital ledger of economic transactions that can be programmed to record not just financial transactions but virtually everything of value.” – Don & Alex Tapscott, authors Blockchain Revolution (2016).

The block chain is defined as an open ledger that offers decentralization to the parties.

In addition, it also offers transparency, immutability, and security. It has many features including being open, distributed, ledger, P2P and permanent.

Today, most of the researchers and corporates particularly in the field of transaction sectors are showing interest in the block chain technology. Let us see few well defined definitions for block chain technology.

A block chain is, in the simplest of terms, a time-stamped series of immutable record of data that is managed by cluster of computers not owned by any single entity. Each of these blocks of data (i.e. block) are secured and bound to each other using cryptographic principles (i.e. chain).

SUCCESS OF BLOCK CHAIN TECHNOLOGY:

The success of block chain technology is

- The blockchain carries no transaction cost
- The blockchain network has no central authority
- The information in it is open for anyone and everyone
- It is transparent and
- Everyone involved is accountable for their actions.

PILLARS OF BLOCK CHAIN TECHNOLOGY:

3 pillars of blockchain technology are Decentralization, Transparency and immutability.

STRENGTH OF BLOCK CHAIN TECHNOLOGY:

- + Need high performance (millisecond) transactions
- + Small organization (no business network)
- + Looking for a database replacement
- + Looking for a messaging replacement
- + Looking for transaction processing replacement
- + Process and metrics are not clear within the ecosystem
- + Value, velocity and/or variability are not present

Topics to be concentrated to implement a successful block chain are

1. A business problem to be solved:
That cannot be solved with more mature Technologies
2. An identifiable business network:
With Participants, Assets and Transactions
3. A need for Trust



APPLICATION:



Application domains to implement the Block chain technology are:

- Inter-bank reconciliation
- Provenance tracking
- Land registry
- Supply chain integration
- Smart contracts
- Benefit distribution
- Securities and markets
- Cryptocurrencies



"The blockchain does one thing: It replaces third-party trust with mathematical proof that something happened."

-Adam Draper

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