

## DEPARTMENT NEWSLETTER OF

COMPUTER SCIENCE & ENGINEERING

# CODE CONNECT VOLUME-2 2023

Discover the latest breakthroughs, research, and achievements from our vibrant academic community. Explore the future of technology with us as we bridge the gap between innovation and imagination. Join us in this journey of knowledge, collaboration, and limitless possibilities.



Innovate



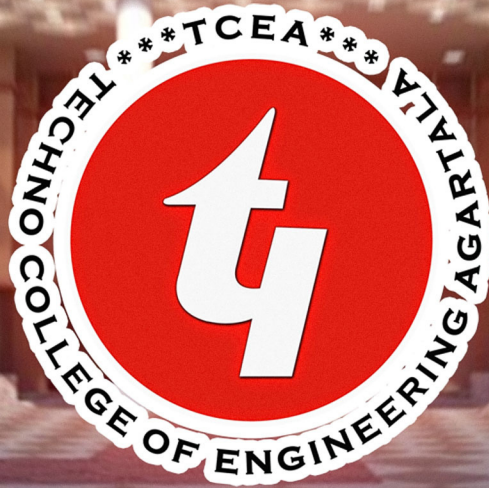
Inspire



Illuminate

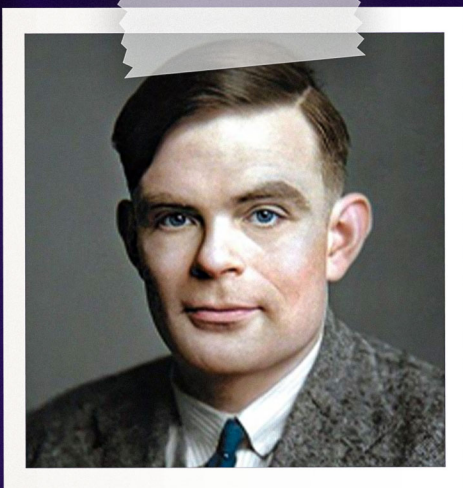
[WWW.TIREDU.ORG](http://WWW.TIREDU.ORG)

TECHNO COLLEGE OF ENGINEERING AGARTALA



## ABOUT US

TECHNO COLLEGE OF ENGINEERING AGARTALA OR TCEA (FORMERLY TECHNOINDIA AGARTALA OR TIA) IS A SELF-FINANCED DEGREE ENGINEERING COLLEGE AFFILIATED TO TRIPURA UNIVERSITY (A CENTRAL UNIVERSITY), APPROVED BY AICTE, MHRD, GOVT. OF INDIA. IT IS RUN AND MANAGED BY TECHNO INDIA GROUP. TECHNO INDIA IS THE RECOGNIZED LEADER AMONG PRIVATE EDUCATION GROUPS IN INDIA FOR ITS ACADEMIC EXCELLENCE AND VAST MULTITUDE OF COURSE OFFERINGS.



"I BELIEVE THAT AT THE END OF THE CENTURY THE USE OF WORDS AND GENERAL EDUCATED OPINION WILL HAVE ALTERED SO MUCH THAT ONE WILL BE ABLE TO SPEAK OF MACHINES THINKING WITHOUT EXPECTING TO BE CONTRADICTED."

- ALAN TURING

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

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# PRINCIPAL'S MESSAGE

It gives me immense pleasure to know that the newsletter of Computer Science and Engineering Department "CODE CONNECT", Volume-II 2023 is about to get published. I am very much optimistic that the Departmental newsletter will send a positive signal among all the students, faculty members, and individuals who are having keen interest in the field of technical education and technology based on technical activities.

A Departmental News letter is like a mirror that reflects a clear picture of all sorts of activities undertaken by a Department.

I congratulate the HOD of CSE Department, Faculty members, and my dear students of Computer Science Engineering Department for taking this particular initiative of publishing the newsletter.

With best Wishes



**-Principal, Dr. Dibakar Deb**  
**Techno College of Engineering Agartala**

## VISION & MISSION

The Department is the center of Excellence in Training and Research in the areas of Computer Science and Engineering to meet the present and future needs of society with human face. To become self-processing in higher education, research, development consultancy and training.



Build a strong research and teaching environment that responds swiftly to the challenges of the 21st century. To be in the frontier of Computer Science and Engineering and to produce globally competent graduates with moral values committed to build a vibrant nation. To be a recognized leader by imparting quality technical education and thereby facilitating the extensive research environment, equipping students with latest skills in the field of technology supplemented with practical orientation to face challenges in the fast morphing modern computing industry and for the

betterment of the society. Provide quality undergraduate education in both the theoretical and applied foundations of computer science and train students to effectively apply this education to solve real-world problems thus amplifying their potential for lifelong high-quality careers and give them a competitive advantage in the ever-changing and challenging global work environment of the 21st century. To strengthen the core competence in Computer Science and Engineering through analytical learning. To produce successful graduates with personal and professional responsibilities and commitment to lifelong learning.

# HOD'S MESSAGE

Welcome to Department of Computer Science & Engineering, TCEA The Department of Computer Science & Engineering (CSE) is dedicated for ensuring great careers for its students. For us, this means forging deeper industry linkages than ever before, creating a research culture from day one and ensuring seamless education using the best technology available anywhere. I am honored to serve as the Head of Department for such a vibrant and forward-thinking community of students, faculty, and staff. Our department is committed to providing an exceptional education that equips students with the skills, knowledge, and mindset needed to excel in the ever-evolving field of computer science and engineering. As technology continues to shape the world around us, it is crucial for aspiring professionals to be at the forefront of innovation. Our curriculum is designed to provide a strong foundation in core computer science principles, programming languages, algorithms, data structures. Beyond the fundamentals, we offer specialized courses in areas such as artificial intelligence, data science, and computer networks etc.



To complement classroom learning, our department encourages and supports a culture of research and innovation. We have well-equipped laboratories where students and faculty collaborate on cutting-edge projects, collaborating with industry partners and publishing research in prestigious conferences and journals. Our goal is to foster critical thinking, problem-solving abilities, and leadership skills among our students. In addition to academic excellence, we also prioritize the holistic development of our students. We provide ample opportunities for extracurricular activities, including coding club, coding competitions. These activities not only strengthen the skills but also help build a network of like-minded individuals who share passion for computer science and engineering. As the world becomes increasingly interconnected and reliant on technology, the demand for computer science and engineering professionals continues to grow. Our department has a strong track record of producing employable graduates who are sought after by leading companies and organizations. We also have a dedicated career counseling cell that provides guidance, training, and placement assistance to ensure our students embark on successful and fulfilling careers.

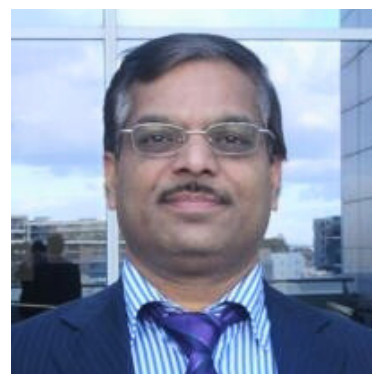
**Dr. Joy Lal Sarkar**

**HEAD OF THE DEPARTMENT**  
COMPUTER SCIENCE & ENGINEERING BRANCH

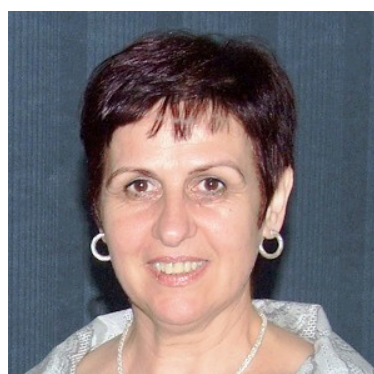


# ADVISORY COMMITTEE MEMBERS

Redmond Barry Distinguished Professor and Director of the Cloud Computing and Distributed Systems (CLOUDS) Laboratory at the University of Melbourne, Australia, founding CEO of Manjrasoft Pty Ltd., a spin-off company of the University, commercializing its innovations in Cloud Computing. Future Fellow of the Australian Research Council during 2012-2016. Honorary/Visiting Professor for several elite Universities including Imperial College London (UK), University of Birmingham (UK), University of Hyderabad (India), and Tsinghua University (China).



PROF. RAJKUMAR BUYYA



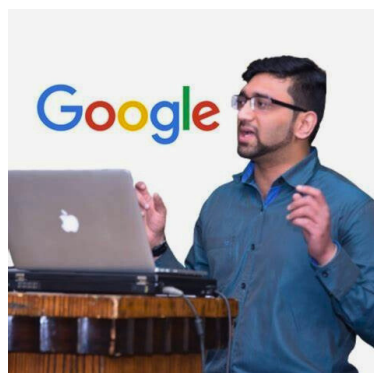
Valentina Emilia Balas, Aurel Vlaicu University of Arad · Automation and Applied Informatics, PhD Valentina E. Balas is currently Full Professor at "Aurel Vlaicu" University of Arad, Romania. Author of more than 400 research papers. Research topics: Intelligent Systems, Fuzzy Control, Soft Computing. Editor-in Chief to IJAIP and to IJCSE journals. Member of EUSFLAT, ACM and a SM IEEE, member in TC - SC (IEEE SMCS), SIAM, Joint Secr. FIM India, "Tudor Tanasescu" Prize from Romanian Academy, 2019, "Stefan Odobleja" Prize of AOSR, 2023 and AGIR Prize 2023.

PROF. VALENTINA E. BALAS

Dr. Anand Nayyar Ph.D (Computer Science), Desh Bhagat University in 2017 in the area of Wireless Sensor Networks, Swarm Intelligence and Network Simulation. Currently working in School of Computer Science-Duy Tan University, Da Nang, Vietnam as Professor, Scientist, Vice-Chairman (Research) and Director- IoT and Intelligent Systems Lab. A Certified Professional with 125+ Professional certificates. Published more than 160+ Research Papers in various High-Quality ISI-SCI/SCIE/SSCI Impact Factor Journals cum Scopus/ESCI indexed Journals, 70+ Papers in International Conferences indexed with Springer, IEEE and ACM Digital Library, 50+ Book Chapters with Citations: 10000+, H-Index: 55 and I-Index: 190. He has 18 Australian Patents, 6 German Patents, 4 Japanese Patents, 33 Indian Design cum Utility Patents, 1 USA Patent, 3 Indian Copyrights and 2 Canadian Copyrights to his credit. Awarded 44 Awards for Teaching and Research. He is listed in Top 2% Scientists as per Stanford University (2020, 2021, 2022).



PROF. ANAND NAYYAR



DR. M SATHIYANARAYANAN

Dr. Mithileysh Sathiyarayanan, Indian born Scientist & Entrepreneur based out of London, Founder & CEO of MIT Square Services Pvt. Ltd. and Founder & Chair of Raj Square Charity Foundation (RSCF)

# FACULTY MEMBERS



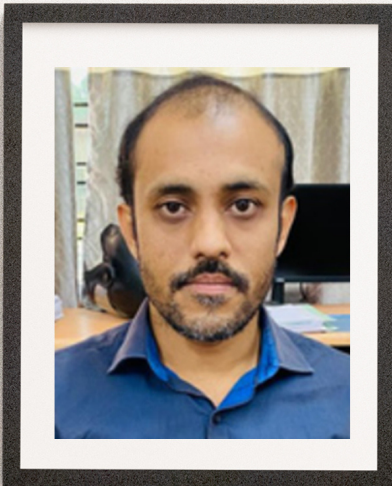
**DR. JOY LAL SARKAR**  
*Assoc. Prof. of CSE Dept*



**DR. SHAWLI BARDHAN**  
*Assoc. Prof. of CSE Dept*



**DR. SUSHMITA SHARMA**  
*Asst. Prof. of CSE Dept*



**MR. PARTHA PRATIM DEB**  
*Asst. Prof. of CSE Dept*



**MR. KANKAN SAHA**  
*Asst. Prof. of CSE Dept*



**MRS. ARIJITA BHOWMIK**  
*Asst. Prof. of CSE Dept*



**MR. SANKHA SUBHRA  
DEBNATH**  
*Asst. Prof. of CSE Dept*



**MRS. PARIJATA  
MAJUMDAR**  
*Asst. Prof. of CSE Dept*



**MISS. SARMISTHA DAS**  
*Lect. of CSE Dept*



**MISS. NABANITA SHIL**  
*Lect. of CSE Dept*



# MESSAGE FROM EDITORIAL TEAM

We are thrilled to introduce the Volume II of CODE CONNECT Newsletter! It has been published after a lot of efforts by the whole editorial team. Our team has worked diligently to bring you a publication that highlights the exceptional achievements and research of our department. It is the outcome of creativity and seriousness in the technical field showed by both the students of Computer Science department and staff. It is a platform for the students, faculty, and researchers to showcase their work and inspire others to pursue their passion in this field

## FACULTY-ADVISORS



**DR. JOY LAL  
SARKAR**

Assoc. Prof. of CSE Dept



**MR. SANKHA SUBHRA  
DEBNATH**

Asst. Prof. of CSE Dept



**MRS. PARIJATA  
MAJUMDAR**

Asst. Prof. of CSE Dept

## STUDENT-EDITORS



**SANSKAR DEBNATH**

3<sup>rd</sup> Year, CSE



**SAUBHIK ROY**

3<sup>rd</sup> Year, CSE



**SOURADEEP DEBBARMA**

3<sup>rd</sup> Year, CSE

# LIST OF EVENTS

## International Workshop on Learn to write Project Reports & Research Papers using LaTeX




Department of CSE organized an international workshop on “Learn to write Project Reports & Research Papers using LaTeX” on 8 May, 2023. The keynote speaker was Dr. Anandarup Mukherjee, University of Cambridge, Dr. Jayanta Pal, Tripura University and Dr. Ashis Kumar Roy, Iswar Chandra Vidyasagar College, Tripura.

LaTeX is a high-quality typesetting system; it includes features designed for the production of technical and scientific documentation. LaTeX is the de facto standard for the communication and publication of scientific documents. LaTeX is available as free software.





# LATEX




भारत 2023 INDIA

Lecture on

## Softwarization for IoT Network







**Dr. Ayan Mondal**  
Department of Computer Science & Engineering  
Indian Institute of Technology, Indore

Lecture series

Lecture - 1

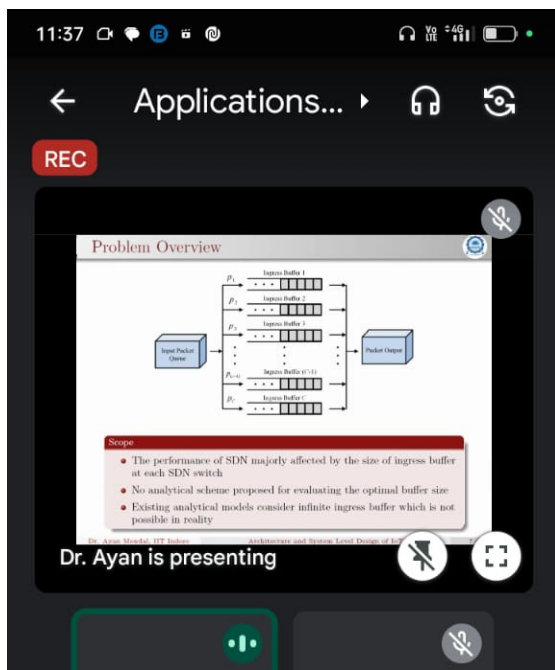


**22-06-2023**  
4:30PM-5:30PM

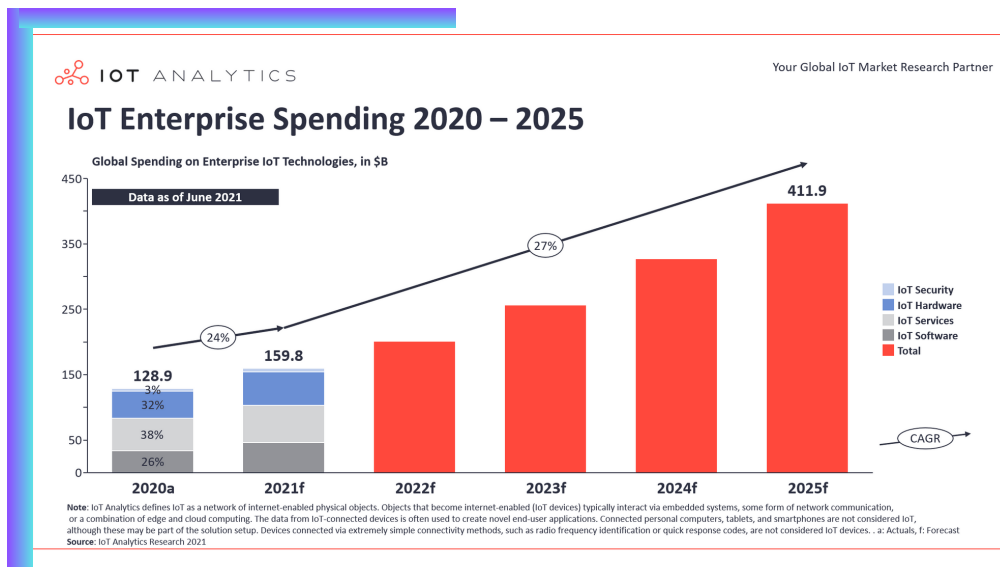
**Speaker BIO**

- Doctor of Philosophy (Ph.D.), IIT Kharagpur, India
- Postdoctoral Research Engineer, Myriads team of INRIA, Rennes Univ Rennes, INRIA, CNRS, IRISA

Organized by Department of CSE  
Techno College of Engineering Agartala  
Maheshkhola, Tripura, India

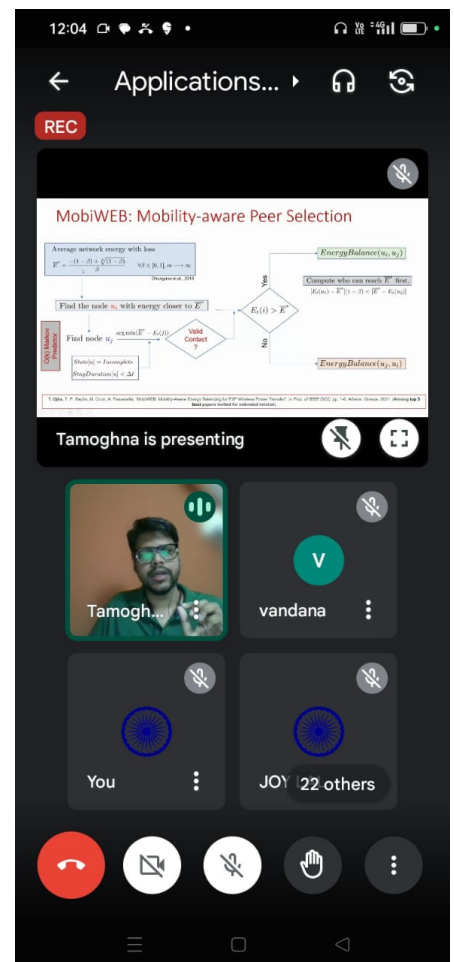
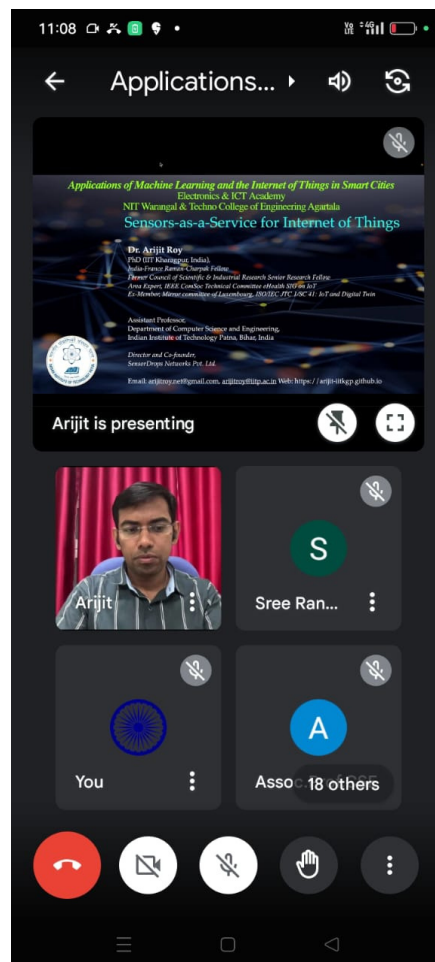
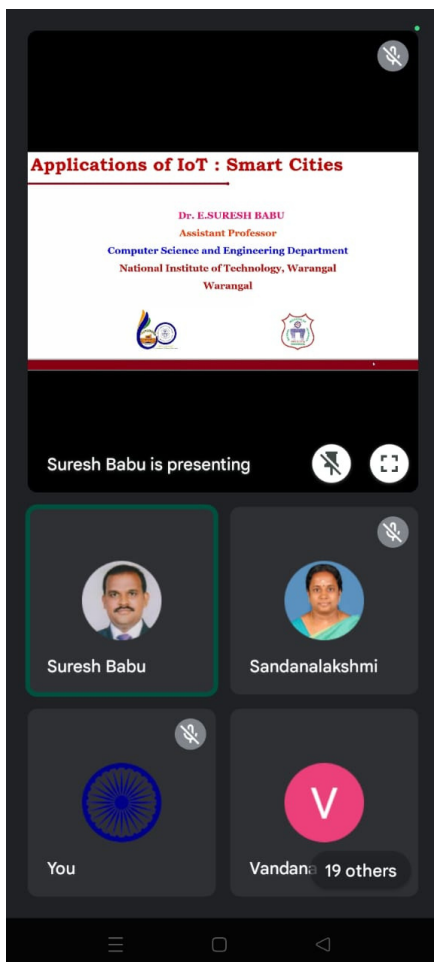
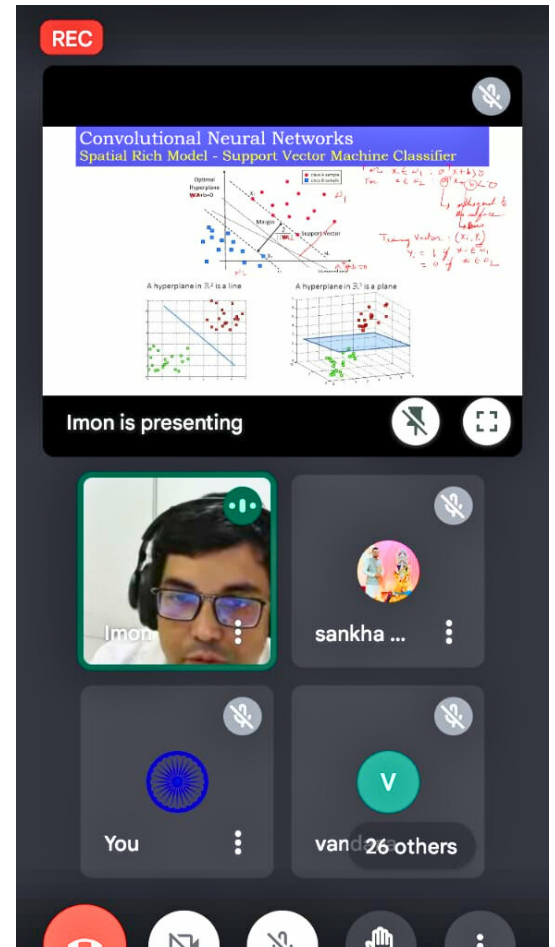


This series will feature many reputed experts from India and around the world as speakers. Faculty and students from our institution, as well as those from other institutions, are welcome to participate in this lecture series.



# ONLINE FACULTY DEVELOPMENT PROGRAMME (FDP) ON APPLICATIONS OF MACHINE LEARNING AND THE INTERNET OF THINGS IN SMART CITIES

Online Faculty Development Program (FDP) on Applications of Machine Learning and the Internet of Things in Smart Cities (12 June - 22 June, 2023) Organized by Electronics & ICT Academy, NIT Warangal in association with Techno College of Engineering Agartala, Tripura, (Sponsored by Ministry of Electronics and Information Technology (MeitY), GOI)



Everybody should learn to program a computer, because it teaches you how to think” -Steve Jobs

For us at CSE Department, we are committed to help our students achieve excellence in global relevant skill. That is why we create an avenue through our training to inspire and encourage the students to act while ensuring student’s uniqueness. In today’s rapidly changing environment, programming skills are essential tools that can be Coding Club aims to establish a coding culture on campus, reaching every



student passionate about coding. The club’s motto is to “Create-Build-Innovate”. We believe that the next generation of the world class professional needs the right skill, exposure to nurture their talent. For us at CSE Department, we are committed to help our students achieve excellence in global relevant skill. That is why we create an avenue through our training to inspire and encourage the students to act while ensuring student’s uniqueness. Utilized and incorporated into various fields and domains hence, it becomes absolutely essential to equip young minds with such skills.



## STUDENTS ACHIEVEMENTS IN DCC



International Plastic Bag Free Day is celebrated on July 3 every year to raise awareness about the harmful impact of plastic on the environment. This day encourages people to replace single-use plastic bags with sustainable alternatives such as jute or cotton bags. TCEA has organized an awareness program on July 3, 2023 from 3.30 to 5.00 PM, where the Chief Guest was Mr. Joyanta Sarkar, Panchayat Program manager, Amarpur RD Block, research fellow at Bits Pilani, Pilani, India.

## International Plastic bag Free Day

Presents

**Mr. Joyanta Sarkar**

Panchayat Program Manager, Amarpur RD Block  
Research Fellow at Bits Pilani, Pilani India  
Awarded with Rastriya Samaj Seva Ratna Award



on  
**03, July,  
2023**  
3:30-5:00pm



## Achievements









# OCTANE COE OPEN CHALLENGE CONTEST (OCP 4.0)

## DEPARTMENT OF CSE, TCEA

### OCTANE COE

We are happy to inform you that OCTANE CoE Open Challenge Contest (OCP 4.0) online application is open now. Last date for online application submission is 11th September 2023.

### DATE

•STPI Agartala would like to organize an outreach event on OCTANE OCP 4.0 on 31st August 2023 (Friday) time 11 am onwards at **Techno college of Engineering, Agartala, Tripura.**

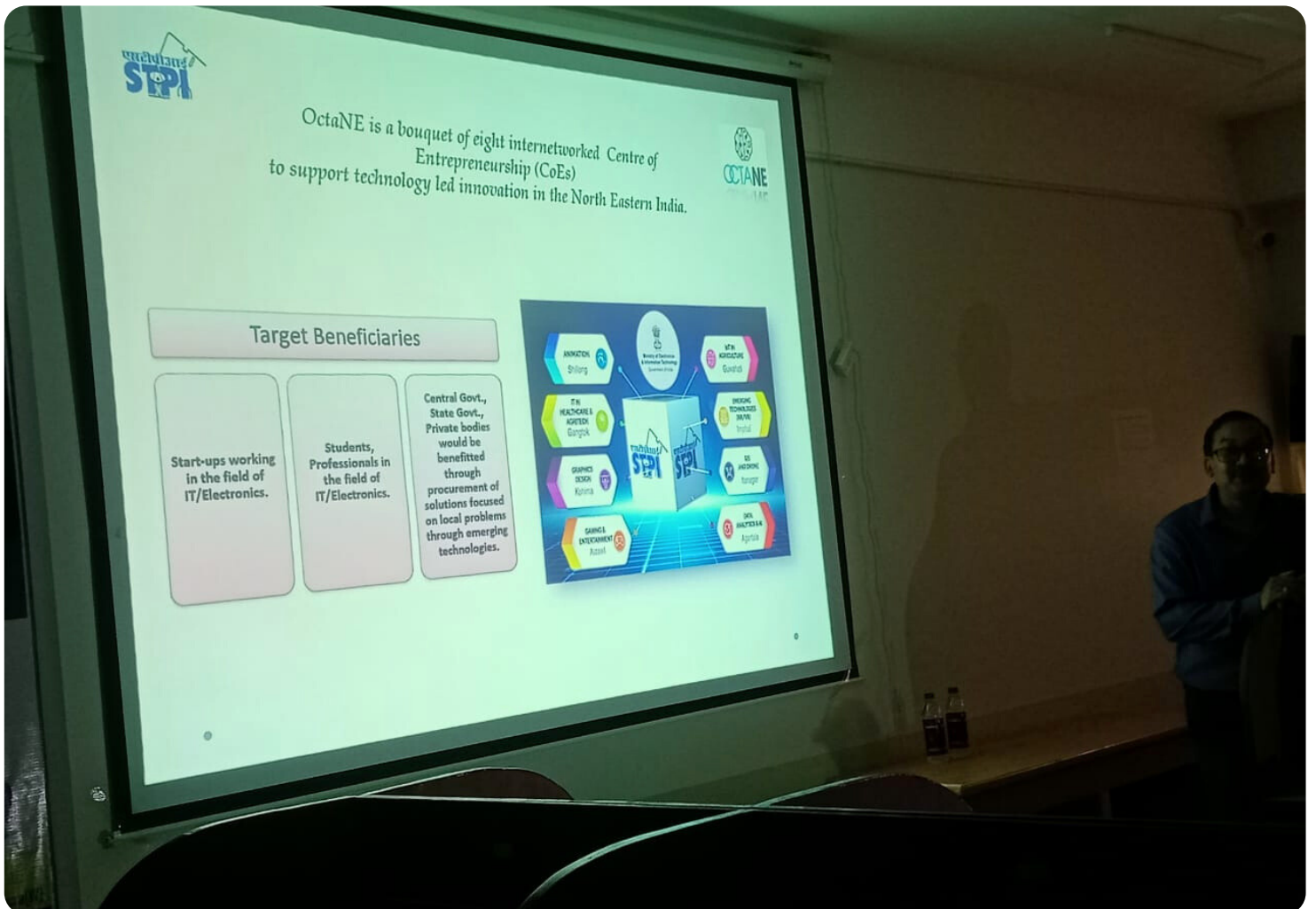
### SOFTWARE TECHNOLOGY PARKS OF INDIA (STPI)

Software Technology Parks of India (STPI) is a premier S&T organization under Ministry of Electronics and Information Technology (MeitY) engaged in promoting IT/ITES Industry, innovation, R&D, start-ups, product/IP creation in the field of emerging technologies.

### OCTANE

- OCTANE is a group of eight internetworked Centre of Entrepreneurship (CoE) to support technology led innovation in the North Eastern India. Aims of OCTANE
- To incubate start-ups in new and emerging technologies in the areas of electronics and IT,
- To provide a robust platform for start-ups, with single umbrella support services like mentorship, cloud computing subsidy, seed capital assistance, marketing support (incl. IPR protection) etc.,
- To create employment opportunities in new innovative start-ups,
- To develop a tinkering and innovation culture amongst students and professionals by establishing innovation zones for start-ups,
- To facilitate E-Commerce activities and applications.





# SCIENERGY 1.0



An intra-state level Science Exhibition named as 'Scienergy 1.0' was organized by TCEA along with the Tripura State Council for Science and Technology (Co-organizer as Knowledge Partner) on 4th July 2023.

Certificate of Participation was awarded to each and every student who took part in this event.

1st, 2nd, and 3rd prize winners from each level (Level I- Class VI to VIII; Level II- Class IX-X; Level III- Class XI-XII) were awarded in the mega award-giving ceremony of TCEA "AAGAM 2.0".



# TECHNO COLLEGE OF ENGINEERING AGARTALA

An Engineering College, Affiliated to Tripura University. Approved by AICTE, MHRD, Govt of India

PRESENTS

## SCIENERGY

1.0

Date: 4th July 2023

Venue: New Seminar Hall, TCEA campus



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# TRAINING ON IT/ITeS FOR TBSE SCHOOL



According to the new syllabus introduced by the Secondary course for all Education and Higher Education of the State Government of Tripura, Industrial Visit was added as a mandatory the students of Class IX-XII. So, TCEA not only helped many schools regarding this matter but

also made sure that all the students coming from each and every school got the best training experience from the visit. The Dept of CSE took the initiative on behalf of TCEA and came forward and made the industrial visits successful. So, over the past few years, many schools throughout Tripura have chosen TCEA as the best place to take their students for the visit and the Dept of CSE didn't disappoint them. Asst. Prof. Sankha Subhra Debnath from the CSE Dept. took the initiative and presented himself in front of the students with the best possible knowledge.



# INDUSTRY COLLABORATION



Kevin Smith

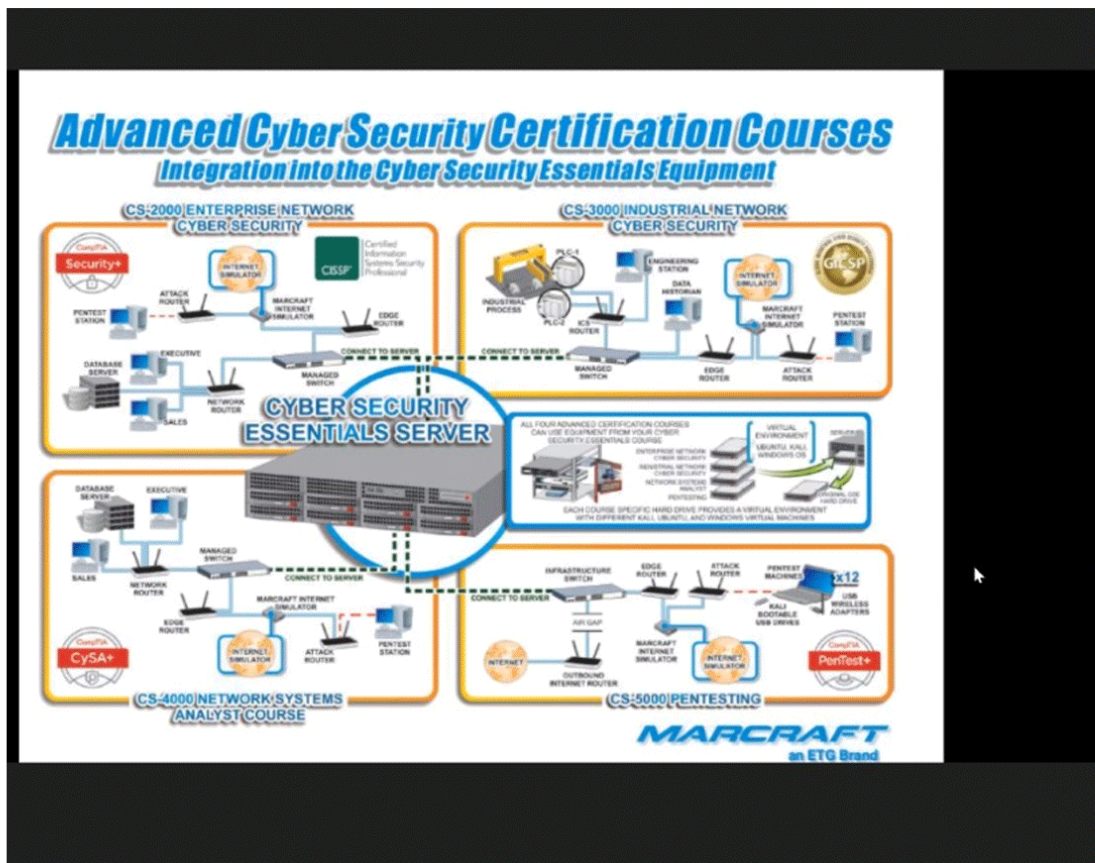
PM  
Parijata Ma...

11  
Participants

## Participants

Share invite

- In this meeting (11)
- JS Joy Lal Sarkar (Guest)  
Meeting guest
  - AB Arijita bhowmik (Guest)  
Meeting guest
  - C Chuck (Guest)  
Meeting guest
  - DB Dr. Shawli Bardh... (Guest)  
Meeting guest
  - DS Dr. Sushmita Sha... (Guest)  
Meeting guest
  - KS Kankan Saha (Guest)  
Meeting guest
  - Kevin Smith  
Organizer
  - NS nabanita Shil (Guest)  
Meeting guest
  - PM Parijata Majumdar (Guest)  
Meeting guest
  - SD Sankha Subhra ... (Guest)  
Meeting guest



Chuck (Guest)

PM DS 10





# **TECHNO COLLEGE OF ENGINEERING AGARTALA**

**Signs**

## **Memorandum of Understanding (MoU)**

**With**

## **MIT Square, London**

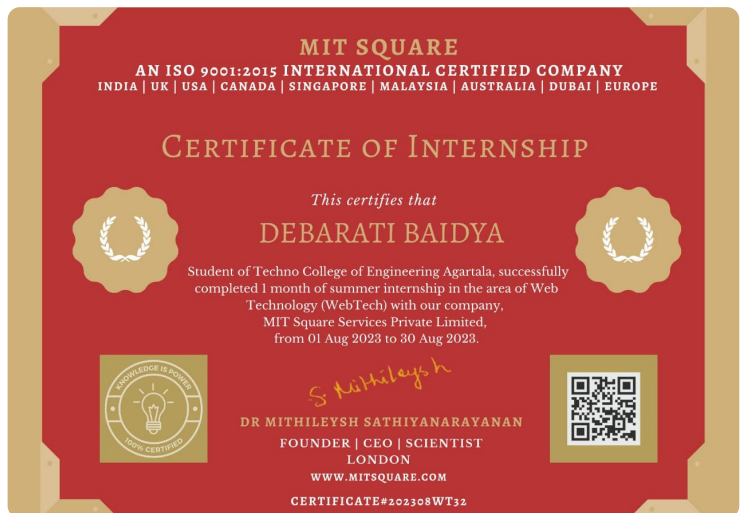
***The focus is on youth development and  
empowerment***

# TRAINING & INTERNSHIP



Our students with **Prof. SUDIP MISHRA**, IIT Kharagpur





Parijata Majumdar: "An Improved Binary Grey Wolf Optimizer for Constrained Engineering Design Problems". Expert Systems (SCIE Indexed, IF: 3.2), (2023).ACCEPTED.

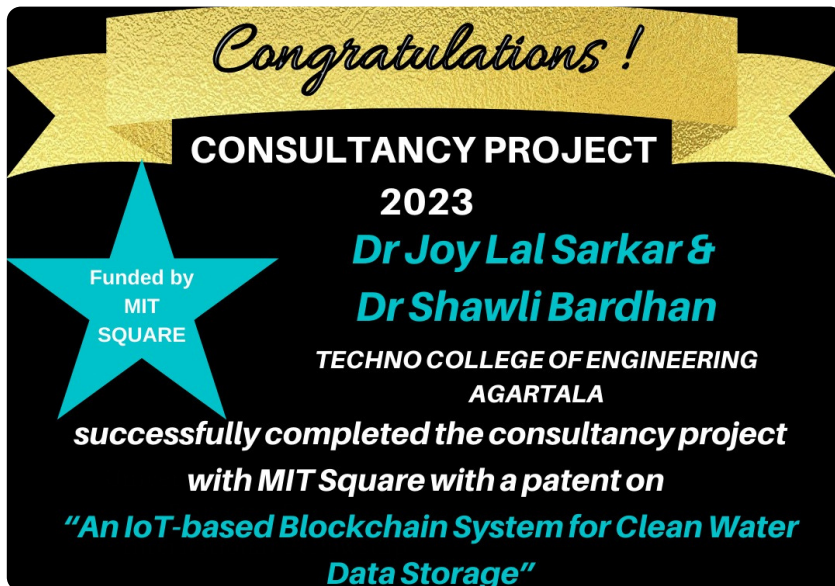
P DEB: A Decision-Making Model With Intuitionistic Fuzzy Information for Selection of Enterprise Resource Planning Systems  
Journal: IEEE Transactions on Engineering Management Impact Factor: 5.8

SANKHA SUBHRA DEBNATH: A Fuzzy Inference System For Determining The Quality Of The Food And Service In Restaurants To Get Tip Percentage, IEEE COMSOC MMTC Communications - Frontiers Vol 18, No 1, Jan 2023

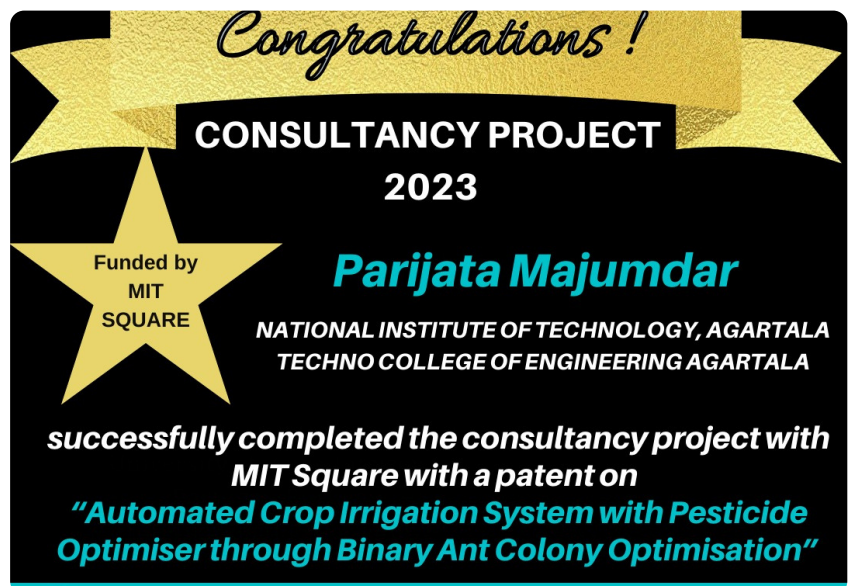
S Bardhan: "Hypertension Detection and Indexing from Cardiac ECM Image Analysis", Multimedia Tools and Applications, Springer, ISSN:1380-7501, Indexed by Science Citation Index Expanded (SCIE), Impact Factor : 3.6

J L Sarkar: C Kumar"IoT in Health Sector: An optical sensor for detection of tuberculosis in suspected patients' blood s", IEEE GLOBCOM 2023 Workshops, Malaysia

# PATENTS



Joy Lal Sarkar, Shawli Bardhan, Mithileysh Sathiyarayanan, "An IoT-based Blockchain System for Clean Water Data Storage". Indian Patent, Aug 2023, Patent Number - 202331055800.



Parijata Majumdar, Sanjoy Mitra, Diptendu Bhattacharya, Bharat Bhushan, Mithileysh Sathiyarayanan, "Automated Crop Irrigation System with Pesticide Optimiser through Binary Ant Colony Optimisation and Ensemble Approach". Indian Patent, Sep 2023, Patent Number - 202331059451.



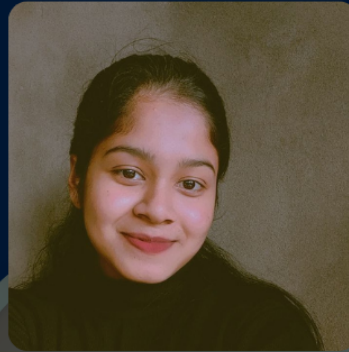
# TOPPERS EVEN SEMESTER

2023



**DEBARAJ SAHA**

SGPA 8.04



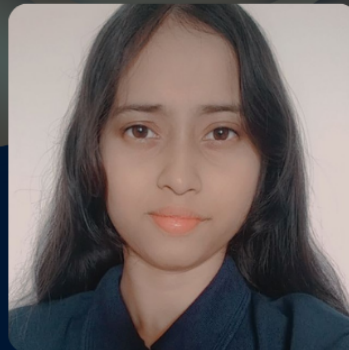
**SNEHA PAUL**

SGPA 7.96



**SANSKAR DEBNATH**

SGPA 7.96



**SOURAMITA DEBNATH**

SGPA 7.74



# TOPPERS EVEN SEMESTER



**PRIYA DAS**

**SGPA 9.80**



**SOMSNATA CHAKRABORTY**

**SGPA 9.64**



**SOURAMITA BHOWMIK**

**SGPA 9.32**

# UPCOMING CONFERENCES



**COMSIC  
2024**

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## International Conference On Communication Systems

Techno College of Engineering Agartala

10-13 January, 2024 // Maheshkhola, Tripura, India

### Overview

COMSIC 2024 focuses on both theory and applications in the broad areas of Communication Systems. COMSIC is a multidisciplinary conference organized with the objective of bringing together academicians, scientists, researchers from industry, research scholars, and students working in all areas of Communication Systems. The conference will provide the authors and listeners with opportunities for national and international collaboration and networking among universities and institutions from India and abroad for promoting research and developing technologies.

Conference starts in

89 08 53 43  
Days Hours Minutes Seconds



## International Conference on Advanced Communications and Machine Intelligence

National Institute of Technology Warangal  
Telangana, India

30-31 October, 2023

Springer



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Due to the large number of paper subm



## Faculty Members



*"Winners don't do different things, they do things differently"*  
— Shiv Khera

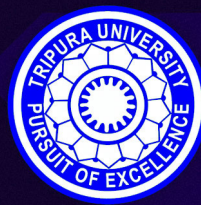


# CODE CONNECT 2023

"INNOVATE. INSPIRE. ILLUMINATE"

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

TECHNO COLLEGE OF ENGINEERING AGARTALA



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