

IEEE BHUBANESWAR SUB-SECTION NEWSLETTER

December 2024 | ISSUE 8 | VOL 1

Editor-In-Chief: Dr. Umamani Subudhi

IEEE MISSION & VISION

IEEE is the world's largest technical professional organization dedicated to advancing technology for the benefit of humanity. Below you can find IEEE's mission and vision statements.

IEEE MISSION & VISION

IEEE will be essential to the global technical community and to technical professionals everywhere, and be universally recognized for the contributions of technology and of technical professionals in improving global conditions.

MISSION STATEMENT

IEEE's core purpose is to foster technological innovation and excellence for the benefit of humanity.

ABOUT IEEE

IEEE and its members inspire a global community to innovate for a better tomorrow through highly cited publications, conferences, technology standards, and professional and educational activities. IEEE is the trusted voice for engineering, computing, and technology information around the globe.

MEMBERSHIP BENEFITS

IEEE membership offers access to technical innovation, cutting edge-information, networking opportunities, and exclusive member benefits. Members support IEEE's mission to advance technology for humanity and the profession, while memberships build a platform to introduce careers in technology to students around the world.

IEEE Bhubaneswar Subsection Elevated to IEEE Bhubaneswar Section

Message from the Interim Chair, IEEE Bhubaneswar Section



Prof S R Samantaray, FNAE
Professor and Head of the School,
School of Electrical and Computer Sciences,
IIT Bhubaneswar, Odisha-752050

I am extremely happy to share that IEEE Bhubaneswar subsection became **IEEE Bhubaneswar Section** which got IEEE MGA Board approval on 23th November 2024. It is the **14th section of India** with the identification code of **R00173** and will operate under aegis of IEEE India Council and **Region-10**.

We thank the IEEE Kolkata Section, Region-10 and IEEE USA leadership for believing on our strength and ability to drive the section and approved the formation of the IEEE Bhubaneswar Section.

This is to mention that we have started our journey as a subsection in November 2015 and it's the 10th year of operation as IEEE Bhubaneswar subsection which has grown up to 8 society chapters/Young Affinity group/WIE/ 17 Student Branches/ 10 Student society chapters etc. and engaged in various activities. We thank all the stake holders for their contribution and support during our journey as the subsection.

This is informed that IEEE Bhubaneswar section will take leadership edge in various IEEE activities and take the Section to a different height.

Prof S R Samantaray



Mr Hare Krishna Ratha , Chair

Dear Members of the IEEE Bhubaneswar Community,

It gives me immense pleasure to connect with all of you through this special edition of us newsletter. This year, 2024, has been a remarkable and transformative year for the IEEE Bhubaneswar Subsection. I am deeply honored to have served as the Chair since January 2024, witnessing the extraordinary growth, participation, and accomplishments of our vibrant community.

One of the most significant milestones in our journey occurred on 23rd November 2024, when the IEEE Bhubaneswar Subsection was officially elevated to the status of an IEEE Section. This achievement marks a new chapter in our history, recognizing the dedication, contributions, and hard work of our members, volunteers, and leadership over the years. This elevation not only strengthens our identity but also opens up new opportunities for technical advancement, collaborations, and professional growth in our region.

Throughout this year, the IEEE Bhubaneswar Subsection has organized numerous impactful events, workshops, technical talks, and conferences that have engaged students, academicians, and professionals alike. Each of these events has been a step towards fostering innovation, knowledge sharing, and networking within the IEEE community. I extend my heartfelt gratitude to all the organizers, volunteers, and participants who have contributed to the success of these initiatives.

As we move forward, I encourage all members to actively participate in upcoming activities and take advantage of the diverse opportunities that IEEE provides. Let us continue to work together to inspire technological excellence, nurture young talent, and create a lasting impact on society. Once again, I congratulate everyone on the elevation of IEEE Bhubaneswar to a Section and thank you all for your unwavering support and commitment. Together, we will achieve greater heights in the years to come.

With warm regards,

HK Ratha

Chair, IEEE Bhubaneswar Subsection



**Prof. Chinmoy Kumar
Panigrahi**
Vice Chair, IEEE

IEEE, an organization dedicated to advancing innovation and technological excellence for the benefit of humanity, is the world's largest technical professional society. The IEEE is a technical, professional association with over 426,000 members in more than 160 countries.

We are blessed with many dedicated volunteers who care deeply about our discipline, its standing, and contributions in a fast-changing environment. They also care about serving our members, from the most junior to the most experienced, and about creating opportunities for the betterment and advancement of their careers in industry and academia.

Our strategic priorities for 2024 include participation in the IEEE-wide efforts in Climate Change and Sustainable Technologies, imagining future products and services and new audiences, providing value to and growing existing audiences, and building on our diverse and inclusive community including implementation of the new IEEE Fellows process.

We also take a look at exemplars for leveraging cross-cutting technology areas, increasingly important for addressing the technology grand challenge problems of our time. Student Branches provide an opportunity for IEEE Student members to begin networking in their areas of interest and future profession. We will do our best to make you proud of your association with the Subsection.

Prof. Chinmoy Kumar Panigrahi

Professor and Director, School of Electrical Engineering, KIIT, Deemed to be University
Vice Chair, IEEE Bhubaneswar Sub Section



Prof C N Bhende
Secretary,
IEEE Bhubaneswar
Subsection

At the onset, I thank the members for providing me the opportunity to serve as the Secretary of the subsection for the year 2024. IEEE Bhubaneswar subsection is now the most active Subsections of the region. I welcome all new members under the Subsection. I congratulate all members who were elevated to the senior grades. I also congratulate all members who received various awards.

The year 2023 was an engaging year with several important activities organized and supported by the subsection. IEEE BHUBANESWAR chapter in support with SPARK is organizing Industry-Institute Interactive Sessions. MathWorks in collaboration with IEEE Bhubaneswar organized a Seminar on 'Embracing AI in Engineering' on 1st Sept 2023 at Mayfair Lagoon, Bhubaneswar. IEEE Kolkata-Bhubaneswar IAS (Industry Application Society) chapter has been approved. In the year 2024, we aim to grow as a whole and I am confident, with your wholehearted support, we shall elevate to a full section by the end of 2024. We shall ensure that the subsection achieves its targets in an all-inclusive manner with the highest level of professionalism, transparency, and integrity. Thanking you all for your efforts in making the subsection a truly active.

Chandrashekhar N. Bhende
Secretary, IEEE Bhubaneswar Subsection

ACTIVITIES

Date: 6th March 2024

A talk on “Semiconductor Characterization: Present status and Future needs”



Dr. Sakuntala Mohapatra, along with Dr. Millee Panigrahi(HOD,ETC).The event was graced by a distinguished chief guest Mr. Mukesh Sukla, R&D and Global Program Manager, Marqueesemi. The event was on one day workshop on **“Semiconductor Characterization: Present status and Future needs”**. All the members of IEE student Forum have actively participated and shared their views on organizing the event, increasing the networking for augmentation of knowledge and their professional growth. The speaker

delivered a comprehensive presentation on the topic, highlighting the current status of semiconductor characterization techniques such as electrical measurements, optical spectroscopy, and scanning electron microscopy. The discussion also focused on the importance of understanding semiconductor properties like carrier concentration, mobility, and bandgap energy for designing electronic devices. Furthermore, the speaker shed light on the future needs in semiconductor characterization, emphasizing the demand for advanced tools, integration of AI and machine learning, and exploration of new methods for emerging semiconductor materials. The seminar provided valuable insights into the field of semiconductor technology and its significance in the engineering domain.

Date: 9th March 2024

Expert Talk on “Data-driven Predictive Analysis in R”

The poster is for an expert talk organized by the Department of Electrical Engineering & IEEE VSSUT Student Branch. It features a portrait of Prof. (Dr.) Monalisa Pattanaik. The text includes the date and time (9th March, 10 AM onwards) and the location (BIJU PATNAIK E-LEARNING CENTRE). It also lists her title as Professor & Head of the Department, Mathematics and Statistics, Sambalpur University, Burla.

Department of Electrical Engineering in association with the IEEE VSSUT Student Branch organized an Expert Talk by Dr. Monalisa Pattanaik, Professor, Department of Mathematics and Statistics, Sambalpur on the topic “Data-driven Predictive Analysis in R” on 09-03-2024 in E-Learning Centre, VSSUT, Burla. A number of our BTech undergraduates, MTech, and Ph.D. scholars attended the talk, along with our esteemed faculties. It was an enlightening talk about this vast spreading domain of professional careers. The talk ended with a fruitful interaction session, with many queries and questions being raised and solved.

Date: 10th March 2024

Celebration of International Women’s Day

The poster is for an International Women's Day Lecture. It features a portrait of Prof. (Dr.) Celis Shahnaz. The title of the lecture is 'Leading the Way: AI and 4IR Technologies'. The date and time are 10th March, 2024, at 7:00 PM. It is organized by the IEEE Kolkata section WIE affinity group, Bhubaneswar. The poster includes a detailed biography of Prof. (Dr.) Celis Shahnaz, highlighting her research in AI and 4IR technologies, her role as a professor at BUET, Bangladesh, and her various international affiliations.

The webinar started with the welcome address by Dr. Sujata Chakravarty, Chair, WIE affinity group, Bhubaneswar.

Dr. Debasmita Pradhan, secretary WIE, Bhubaneswar, introduced the speaker Dr. CELIA SHAHNAZ, Professor, BUET, Bangladesh. The webinar was conducted to celebrate the “International Women’s Day” day.

The presentation aimed to demonstrate the practical application of AI and 4IR

technologies in addressing real-world challenges. The speaker began by discussing her research on utilizing deep learning models to predict the severity of Hypoxemia in hospital in-patients using photoplethysmograph signals. A novel approach, the residual-squeeze-excitation-attention based convolutional neural network (Res-SE-ConvNet), was introduced for predicting patient comfortability using PPG signals. Additionally, the speaker presented the utilization of Capsule Network (CapsNet), a model she designed, for detecting abnormalities in Musculoskeletal Radiographs. Furthermore, the application of deep learning

methods for skin cancer detection was discussed.

Throughout the presentation, the speaker illustrated the broad spectrum of AI, machine learning, and deep learning techniques in healthcare, emphasizing their significance in facilitating prompt detection and appropriate medical intervention. Several of the speaker's notable achievements and awards, such as the WIE Professional Volunteer Award from R10 (2013), WIE Inspiring Member Award from Global WIE (2015), WGA Leadership Award (2016), R10 Humanitarian Activities Outstanding Volunteer Award (2019), and IEEE MGA Achievement Award (2021), were highlighted, serving as a source of inspiration.

The presentation concluded with a motivating statement from the speaker, "IF I can do it, you all can do it as well," encouraging the audience to pursue similar endeavors. Dr. Umamani Subudhi, Vice-Chair of WIE Bhubaneswar, extended a vote of thanks to conclude the event.

Date: 21st March 2024

Industry Visit of Delegates from Ministry of Sports and Youth Affairs



IEEE COMMUNICATION AND COMPUTER JOINT SOCIETIES CHAPTER, CHANDIPUR and INTEGRATED TEST RANGE (ITR), CHANDIPUR organized an industry visit of NSS national integration camp participants on 21st Mar 2024 to DRDO establishments at

Chandipur. The team consisting of 200 participants from various institutes and central universities of the country had attended the visit programme. It was co-ordinated by Fakir Mohan University (FMU), Balasore and Ministry of sports and Youth Affairs, Govt of India. The participants were welcomed and briefed about the activities of DRDO.

Participants were interacted and their queries were addressed by scientists, technologists and researchers from ITR, DRDO. It was quite interactive and the participants were very curious to know the growth and progress of defence research and development in our country.

Date: 10th April to 11th April 2024

2 DAYS WORKSHOP ON ADVANCEMENTS IN DEFENCE TECHNOLOGY (RGADT-2024)



On 10th - 11th April 2024, the IEEE Veer Surendra Sai University of Technology (VSSUT) Student Branch in collaboration with IEEE COMSOC Student Chapter, VSSUT, Burla, and IEEE COMSOC Chapter, Integrated Test Range, Defense Research and Development Organization, Chandipur, organized the RGADT-2024 (Recent Growth and Advancement in Defense Technology- 2024) workshop, in the E-Learning Centre, VSSUT, Burla,

attracting over 200 participants. Leading scientist Dr. Pradipta Roy, Mr. Amiya Kumar Das, and Dr. Arun Kumar Ray illuminated the stage with groundbreaking revelation on advancements in defense technology. Concluding the event, Prof. Harish Kumar Shoo extended heartfelt gratitude, bringing to a close two days filled with enriching learning experiences and valuable networking opportunities.

Date: 12th April 2024

A talk on “Security Awareness and Data Protection Measures”



Trident Academy of Technology in Bhubaneswar collaborated the **EPS chapter IEEE Bhubaneswar Subsection** to organized a seminar on "**Security Awareness and Data Protection Measures**" in the field of Electronics and Telecommunication. Sabyasachi Mohanty, an alumnus, who currently holds the position of an Implementation Engineer, gave a detailed presentation on April 12th, 2024. Both second and third-year students actively participated in discussions, and acquired knowledge about cyber dangers, attack vectors, and best practices for data protection. Mohanty's proficiency and practical illustrations enhanced students' comprehension of cyber security beyond the confines of the classroom. The lecture instilled a sense of accountability among participants to protect digital resources. In summary, the event was a successful collaboration that provided students with practical information and emphasized the significance of ongoing vigilance in cyber security.

Date: 20th April 2024

A Lecture on “Raising awareness of cybercrime among our women employees”

The poster is for a webinar titled "AWARENESS OF CYBERCRIME FOR WOMEN EMPLOYEES" held on 20th April 2024 at 7:00 PM (IST). It features logos for WIE (Women in Engineering), IEEE, and the Ministry of Skill Development and Entrepreneurship. The central theme is "CYBER CRIME" with sub-topics like "INTERNET ATTACKS" and "System HACKED". The speaker is Mrs. Anila Anand, Inspector, CID Odisha. The event is organized by the Women in Engineering affinity group Bhubaneswar. Contact information for Dr. Sujata Chakravarty, Dr. Umamoni Subudhi, and Dr. Dohamita Pradhan is provided.

The webinar started with the welcome address by Dr. Sujata Chakravarty, Chair, WIE affinity group, Bhubaneswar. She also introduced the speaker Ms. Anila Anand. Highlights of the talk includes: Introduction to

Cyber Security, Cyber-attacks like cyber bullying, phishing, ransomware, account hacking, morphing, real-life examples of cyber-attacks, best practices for social media use, mobile app use, educating children about the menace of cyber attack. The presentation concluded with a motivating statement from the speaker, "IF I can do it, you all can do it as well," encouraging the audience to pursue similar endeavours. Dr. Bharati Mishra Treasurer of the Chapter extended a vote of thanks to conclude the event.

Date: 11th May 2024

Distinguished Lecture on Move with a Purpose

The poster is for a distinguished lecture titled "Distinguished Lecture on Move with purpose" on 11th May 2024 (Saturday) at 7 PM (IST). It features logos for IEEE, WIE, IAS (IEEE Industry Applications Society), KIIT (Kalinga Institute of Industrial Technology), and Centurion University. The speaker is Mary Ellen Randall, President at Ascot Technologies, Inc., USA, IEEE Fellow, IEEE DL, IEEE Technology Engineering Management Society Distinguished Lecturer. The event is organized by the WIE Affinity Group & IEEE IAS Bhubaneswar/Kolkata Joint Chapter. A Google Meet link and contact information for Dr. Sujata Chakravarty and Dr. Ranjeeta Patel are provided.

Mary Ellen Randall
President at Ascot Technologies, Inc., USA, IEEE Fellow
IEEE DL, IEEE Technology Engineering Management
Society Distinguished Lecturer

Distinguished Lecture on Move with purpose

**Date: 11th May 2024 (Saturday)
Time: 7 PM (IST)**

Google Meet Link:

<https://meet.google.com/juz-cgum-rmg>

Contact:

Dr. Sujata Chakravarty, Chair WIE Affinity Group
Dr. Ranjeeta Patel, Chair, IEEE IAS Bhubaneswar/Kolkata Joint Chapter

Date: 17th May 2024

Celebration of “World Telecommunications and Information Society Day” and IEEE Lecture on “The Renaissance of HF and its Relevance to Test Range”



IEEE

COMMUNICATION AND COMPUTER JOINT SOCIETIES CHAPTER, CHANDIPUR and INTEGRATED TEST RANGE, CHANDIPUR celebrated world Telecommunications and Information Society Day on 17th May 2024 at Range Center, ITR. On this occasion, IEEE technical lecture titled “The Renaissance of HF and its Relevance to Test Range” was organized. The resource person Shri H K Ratha, Ex Director, ITR, Balasore delivered the talk. He explained how the importance of resilient waveforms underscored, High Frequency (HF) technology has emerged as a robust solution, leading to an “HF renaissance”. He also discussed the different applications of HF renaissance. He further highlighted upon the importance and relevance of HF renaissance to Test Range. The talk was attended by scientists, technologists and researchers from ITR, DRDO.

Date: 24th May 2024

Talk on “Explainable AI for Identification of ECG Signal”

On May 24th, 2024, the IEEE Young Professional Affinity Group of the IEEE Bhubaneswar Subsection organized a talk on “Explainable AI for Identification of ECG Signals” by Prof. Malay Kumar Nath, Dept of ECE ,NIT Puducherry. The event was attended by students from Trident Academy of Technology, who participated online. The session focused on the application of explainable artificial intelligence (AI) techniques to improve the identification and analysis of electrocardiogram (ECG) signals. The speaker discussed how explainable AI can enhance the transparency and interpretability of AI models, making it easier for healthcare professionals to trust and adopt these technologies in clinical settings. The talk provided valuable insights into the intersection of AI and healthcare, highlighting the potential benefits of using advanced AI methods for accurate and reliable ECG signal analysis. The students found the session enlightening, as it expanded their understanding of how AI can be leveraged in



medical diagnostics to improve patient outcomes.

Date: 5th to 6th June 2024

IEEE VSSUT Student Branch and IEEE VSSUT CASS Student Chapter organize ECO VISSION 2024



The IEEE VSSUT Student Branch in collaboration with the IEEE VSSUT CASS Student Chapter organized the ECO VISSION 2024. It was a 2-day event on 5th and 6th June but had an amalgam of opportunities and a wide range of multidomain competitions which gave ample exposure to the students of our university. We also received a lot of participation from students outside our university, as they showered our student branch with enthusiasm for our events and the recognition we work for. The event comprised our flagship Symposium event,

an essay writing competition, a poster presentation event, an ocean photography competition, and a quiz and puzzles challenge.

The different competitions and challenges sparked a lot of curiosity and excitement in the young minds and proved to be a successful celebration altogether.

Date: 5th June 2024

Observation of “World Environment Day”



A plantation drive (around 100 fruit bearing plants) was carried out near fire station building at ITR, Chandipur. The employees of ITR including scientists, technical officers and other staff members participated in the event. The event was inaugurated by Shri K Suchendar, Outstanding Scientist and Director-ITR.

Date: 24th June to 1st July 2024

IEEE VSSUT Student Branch and IEEE VSSUT WIE Affinity Group organizes SheASPIRE-2024



The IEEE VSSUT WIE (Women in Engineering) Affinity Group in collaboration with the IEEE VSSUT Student Branch organized a week-long event She Aspire – 2024. It was truly a wonderful way to celebrate women in our professional path, along with a gem of an experience for all the undergrads of our university. It lasted a long span from 24th June 2024 to 1st July, in virtual mode. It started with a webinar on “AI Functional Safety”. It was led by Jyotika Athavale, the 2024 President of

the global IEEE International Computer Society. Then, another on “AI in a nutshell” by Mrinal Karvir, the 2024 Secretary of IEEE Computer Society and the Vice Chairperson of IEEE SCV WIE. The following days were composed of a Story Writing & Telling competition, an Ideathon Challenge, a Strategy-making challenge, and Cryptic Deduction. This array of multi-domain events broadened the minds of our university students.

Date: 25th June 2024

Expert Talk on “TOWARDS RESPONSIBLE AND SUSTAINABLE AI-DRIVEN EARTH MONITORING”



Date: 29th June 2024

Expert Talk on “Decoding Evolving Intelligence: A Journey through Evolutionary Computing”



Date: 26th July 2024

Expert talk on Beyond Recognition: How Generative AI is revolutionizing content creation



26th July 2024

IEEE IAS Distinguished Lecture Program at KIIT



KIIT School of Electrical Engineering conducted the insightful IEEE IAS Distinguished Lecture Program on “Intelligent power management and control of electric drives in electric vehicles using reinforcement learning” by Prof. Rajesh Kumar, Professor, Malaviya National Institute of Technology (MNIT) Jaipur, Rajasthan on 26th July, 2024. This presentation delved into advanced and efficient energy management strategies for Hybrid Electric Vehicles (HEVs), fostering the development of more sustainable and efficient transportation systems. Along with this, he defined some potential areas to further explore. The participants were faculties, PhD Scholars, M.Tech Scholars, UG students. His insights greatly benefited the aspiring young minds in attendance. The lecture was followed by a Q & A round.



Date: 31st July 2024

IEEE Lecture on “Atmospheric Instability and Cloud Formation”



IEEE COMMUNICATION AND COMPUTER JOINT SOCIETIES CHAPTER, CHANDIPUR and INTEGRATED TEST RANGE, CHANDIPUR organized a lecture titled “Atmospheric Instability and Cloud Formation” on 31st July 2024 at Range Center, ITR. The resource person Dr. Bibekananda Panda, Group Director (Meteorology), ITR delivered the talk. He explained about the atmospheric changes that happening now-a-days and its impact

in weather changes. He also discussed the formation of different types of clouds in the sky. The talk was attended by scientists, technologists and researchers from ITR, DRDO. It was quite interactive and the audience were very curious to know the common phenomenon on atmospheric changes.

29th July-1st August, 2024

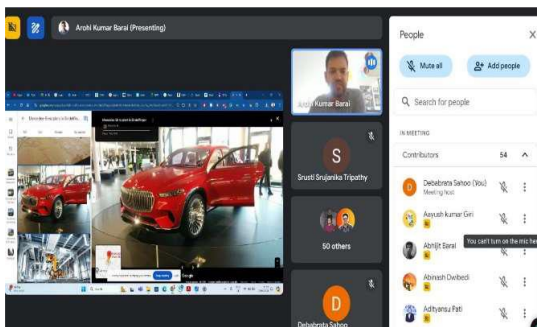
Prof. Milos Manic, IEEE IES President Visit to KIIT Deemed to be University, Bhubaneswar

A highlight of Professor Manic’s visit was his insightful speech on the impact of IEEE on the academic and professional lives of both faculty and students at KIIT University. He delved into the pivotal role IEEE plays in fostering innovation, providing networking opportunities, and supporting professional development. His address emphasized the significant benefits of IEEE membership, encouraging the students and faculty to actively engage and contribute to the IEEE Wide Open Research Forum. Professor Manic’s discussion was not only informative but also motivational, inspiring the academic community to leverage IEEE resources and collaborations to further their personal and professional growth.



Date: 2nd August 2024

Webinar on “Internship and Higher Education Opportunities Abroad: Essential Tips for Career Success”



The extensive knowledge and experience one can gain regarding opportunities abroad, be it internship or higher education, is a huge edge for any professional individual. To address this crucial subject, the IEEE VSSUT Student Branch in collaboration with the IEEE CASS VSSUT Student Chapter organized a webinar on 2nd August 2024, in virtual mode. This webinar was led by the esteemed Arohi Kumar Barai, Project

Manager at Mercedes-Benz AG.

We received really good participation from our university and also thanks to IEEE, we got some good exposure for this event beyond our university. The event was followed by an engaging discussion session, where our guest addressed every small and big doubt with equal patience and importance.

19th September 2024

A competition on “Best Research Work”



A competition titled “Best Research Work” was organized by IEEE COMMUNICATION AND COMPUTER JOINT SOCIETIES CHAPTER in association with INTEGRATED TEST RANGE, Chandipur on 19th September 2024 at Knowledge Centre, ITR. Total 08 Nos of Research fellows had participated and presented their research work of last one year. The participants had showcased their current research work in various domains and technology. The evaluation committee interacted with the participants. The winner of the Best Research work competition was awarded with a certificate and memento.

21st September 2024

36th EC Meeting of IEEE Bhubaneswar Subsection



The **36th Executive Committee (EC) Meeting** of the **IEEE Bhubaneswar Subsection** was held on **21st September 2024** at the **Institute of Technical Education and Research (ITER), Siksha 'O' Anusandhan (Deemed to be University), Bhubaneswar**. Prof. Pradipta K. Nanda, Vice-Chancellor, SOA, welcomed the attendees and emphasized the university's commitment to advancing technological excellence.



The event commenced with opening remarks by the Chair, **Shri H. K. Ratha**, who highlighted the Subsection's recent activities and upcoming initiatives. Before the formal proceedings, Shri Ratha delivered an **expert talk** titled **"ITR Chandipur: Overview, Activities, and Future Plan,"** providing valuable insights into the operations and vision of the esteemed organization. The event also featured engaging **expert lectures** by



distinguished speakers. Prof. **Ashok Tripathy**, former Chair and present slate member of the IEEE Bhubaneswar Subsection, discussed the **benefits of IEEE membership** and its role in fostering professional growth. Dr. **Rajiuddin SK** presented on **"Recent Advances in Quantum Information and**

<p>Expert Talk on: ITR Chandipur - Overview, Activities, and Future Plans</p> <p>Shri Hare Krishna Ratha Vice-Chancellor, SOA</p> <p>IEEE Student Branch Institute of Technical Education and Research Siksha 'O' Anusandhan, Bhubaneswar</p>	<p>Expert Talk on: Recent advances in Quantum Information and Quantum Communication</p> <p>Prof. Ashok Tripathy Former Chair and Present Slate Member</p> <p>IEEE Student Branch Institute of Technical Education and Research Faculty of Engineering & Technology</p>	<p>Expert Talk on: 5G Usecase for Agriculture and Healthcare</p> <p>Dr. Rajiuddin SK Assistant Professor, Center for Quantum Science and Technology</p> <p>IEEE Student Branch Institute of Technical Education and Research Faculty of Engineering & Technology</p>	<p>Expert Talk on: 5G Usecase for Agriculture and Healthcare</p> <p>Shri Hare Krishna Ratha Vice-Chancellor, SOA</p> <p>IEEE Student Branch Institute of Technical Education and Research Faculty of Engineering & Technology</p>
--	---	---	--

Quantum Communication,” and Dr. **Bharat Jyoti Ranjan Sahu** shared his expertise on “*5G Use Cases for Agriculture and Healthcare,*” showcasing the transformative potential of cutting-edge technologies. The meeting concluded with productive discussions and networking among members.

24th September 2024

IEEE Membership Drive at Rajadhani Engineering College

An IEEE Membership Drive was successfully conducted on 24th September 2024 at Raajdhani Engineering College, Bhubaneswar, aimed at encouraging students to join the global IEEE community. The event was led by Prof. Renu Sharma, Additional Dean (Student Affairs) and Professor, Department of Electrical Engineering, Siksha 'O' Anusandhan (Deemed to be University), Bhubaneswar. Prof. Sharma, who also serves as the Joint Secretary of IEEE Bhubaneswar Sub-Section, highlighted the numerous benefits of IEEE membership, including access to technical resources, networking opportunities, and professional growth. The drive witnessed an enthusiastic participation of around 250 students, who actively engaged in the interactive session. Prof. Sharma emphasized the importance of IEEE for fostering innovation and building technical expertise, particularly for students aspiring to excel in engineering and technology. The session concluded with an overwhelming response, as many students expressed interest in joining IEEE to leverage its global platform for academic and professional development.





IEEE Day Celebration

1st October 2024

IEEE Day 2024 was celebrated by IEEE COMMUNICATION AND COMPUTER JOINT SOCIETIES CHAPTER in association with INTEGRATED TEST RANGE, Chandipur on 01st October 2024. All members of the chapter have been presented with a memento on this occasion. A lecture on “**Exploration of Moon and Solar System by ISRO**” was also conducted after celebration. The lecture was delivered by Dr Umang Parikh, General Manager, New Space India Limited (A CPSE under Department of Space, Govt. of India). Thirty-Four IEEE joint societies chapter members along with Twenty-Eight Scientists and technocrats of ITR attended the lecture physically and through video conference at different locations. Dr Umang Parikh has discussed how the Chandrayaan Mission started and various milestones archived afterwards. He also explained the technical intricacies involved in the other space missions like Aditya-L1, the recent advancement and future programs of ISRO such as Gaganyaan and Bhartiya Antariksha Station (BAS). Mr Harekrishna Ratha, Chair, Bhubaneswar Sub-section also graced the occasion.



Date: 3rd October 2024

On the occasion of IEEE Day 2024, the IEEE Student Chapter of IIIT BHUBANESWAR organized a day-long celebration on 3rd October 2024. The event aimed to foster technological awareness, encourage student participation, and promote the benefits of IEEE membership among the student community. The theme of the day revolved around innovation and the future of technology, with several activities designed to engage and inspire students. The day



featured three key activities like Tech Talk by Expert, IEEE Membership drive and Technical Quiz round. Mr Bikash Kundu ,CEO of Asiczen technology was invited to deliver a keynote speech. The expert provided valuable insights into the latest technological trends, emerging innovations, and their potential impact on society. The talk concluded with an interactive Q&A session, where students enthusiastically posed questions and discussed various tech-related topics with the speaker. The IEEE Student Chapter conducted a membership drive to raise awareness about the numerous benefits of being an IEEE member. During this session, students were informed about the career, networking, and learning opportunities that IEEE provides to its members. The drive also featured information on how to join and the various resources available through IEEE. To make the celebration more engaging, a fun and interactive technical quiz was organized. The quiz focused on recent technological advancements and tested participants' knowledge of innovations in various fields. Students participated actively, and the winners were recognized with certificates and prizes.

5th November 2024

IEEE IES and PELs Societies Technical Talk (HYBRID Mode)

Title: Role and Importance of Solar Energy in Electricity Sector

Speaker: Mr. Uday Pavan K., Manager, Solar Energy Corporation of India Limited

8th to 9th November 2024

The 3rd IEEE Odisha International Conference on Electrical Power Engineering, Communication and Computing Technology



The 3rd IEEE Odisha International Conference on Electrical Power Engineering, Communication, and Computing Technology (ODICON-2024), held from 8th to 9th November 2024 at Siksha 'O' Anusandhan (Deemed to be University), Bhubaneswar, Odisha, India, was a landmark event in the field of electrical engineering and allied domains. Organized by the Department of Electrical Engineering, Institute of Technical Education and Research (ITER), the conference was technically co-sponsored by the IEEE Kolkata Section, IEEE Bhubaneswar Sub-Section, and IEEE Communications and Computer Societies Joint Chapter (CH10943).



This year's conference focused on advancements in Electrical Power Engineering, Communication, and Computing Technology, bringing together researchers, academicians, and industry professionals from around the world. The conference received an overwhelming response, with 642 technical paper submissions across seven tracks. After a rigorous review process, 170 high-quality papers were accepted and presented during the event, and these have been submitted to the IEEE Xplore Digital Library for possible publication.

ODICON-2024 witnessed four insightful keynote sessions and four hands-on tutorial sessions delivered by eminent speakers from academia and industry, sparking engaging discussions and fostering collaborations. The event also included 15 offline technical sessions

and 7 online sessions, ensuring widespread participation and accessibility. Session-wise Best Paper Awards were presented to acknowledge exceptional contributions. The conference became a hub for in-person networking, with over 100 authors



presenting their research at the venue. A special IEEE Membership Drive, attended by 235 students, further strengthened the connection between the IEEE community and budding engineers.

ODICON-2024 showcased the Institute's commitment to advancing research and fostering innovation in Electrical Power Engineering, Communication, and Computing Technology, establishing itself as a vital platform for intellectual exchange and future collaborations.

Date: 9th November 2024

Talk on AI for Mobility: Building Smart Cities



A talk was delivered by **Ankit R Patel**, Researcher at University of Minho, Portugal at Silicon University on 9th November 2024. The esteemed speaker discussed the pivotal role of AI in urban mobility, highlighting the impact of smart transportation systems. The session also emphasized the importance of enhancing sustainability and reducing environmental impact through AI. Additionally, the speaker focused on how AI can improve safety and reduce accidents.

Furthermore, the session covered the significance of data-driven decision-making in urban planning

Date: 12th November 2024

Field Visit to 330 kW Rooftop Solar Plant, Silicon University, Odisha

A field visit was arranged by Silicon university to 330 kW rooftop solar plant. Around 48 students participated in the visit. It provided participants with a firsthand experience of a large-scale solar energy installation. During the visit, attendees explored the plant's design, components, and operation, gaining insights into the technology behind solar panels, inverters, and the overall system setup. The session focused on the practical aspects of installing and maintaining a rooftop solar plant, emphasizing energy generation, efficiency, and sustainability. Participants also learned about the benefits of renewable energy, particularly solar power, in reducing carbon footprints and supporting sustainable energy practices.



Date: 21st November 2024

Shape a sustainable future: Environmental Engineering in the U.S



Shape a Sustainable Future: Environmental Engineering in the U.S.

- Join us for an exclusive webinar to explore the field of **Environmental Engineering** with **Southern Methodist University!**
- Learn about the innovative ways this field addresses critical environmental challenges, such as water and air quality, waste management, and sustainable energy.
- This webinar is ideal for students interested in combining science, engineering, and sustainability for a meaningful career.



Dr JOHN EASTON

Faculty - Department of Civil and Environmental Engineering



ANAM IQBAL

Sr. Associate Director of Graduate & International Recruitment



Thursday, Nov 21st
7.30 PM to 8.30 PM



Virtual

Register Here



bit.ly/EnvEngnrg



Date: 23rd November 2024

37th EC Meeting Held at Trident Academy of Technology

The 37th EC meeting of the subsection held on 23rd November 2024 at Trident Academy of Technology.




Mr H. K. Ratha chaired the session with an opening remark on the status of the subsection on various aspects like membership strength, past events conducted and challenges ahead to be addressed. Different society chapters and affinity groups briefed about their future plans. EC members discussed about the various strategies to be followed to bring up the membership drive. They also raised the concern about increasing outreach programs.





Date: 27th November 2024

Sustainable Model of IEEE Student Membership






**IEEE Bhubaneswar Subsection in association with
IEEE Kolkata Section Power & Energy Society Chapter-Bhubaneswar**

Welcome

Dr. Suresh H. Jangamshetti

Vice Chancellor, Haveri University,
Haveri




Webinar
"Sustainable Model of IEEE Student Membership"

27th November, 2024

<https://meet.google.com/mef-iqnh-ihw>

Date: 30th November 2024


Transition to Clean Energy -New R&D Opportunities for Engineers



Distinguished Lecture Series organized jointly by
INAE Bhubaneswar Chapter, SOA University,
CSIR-IMMT Bhubaneswar, IIT Bhubaneswar,
NISER Bhubaneswar and IEEE Bhubaneswar Sub-section

LECTURE-48






Transition to Clean Energy - New R&D Opportunities for Engineers



Prof. Pradip Dutta
Professor, Centre for Energy Research, Department of Mechanical Engineering
Indian Institute of Science, Bangalore

Abstract: Today, the world is facing a major crisis in the form of environmental degradation and climate change. In view of this, governments, international think tanks and policy makers are framing new regulations to phase out conventional green-house gas emitting technologies and give way to newer technologies and practices to arrive at a net-zero emission target within a stipulated timeframe. These new policies and regulations are leading to disruption in energy production as well as usage, with greater emphasis on cleaner and renewable energy production, electrification in the transport sector and decarbonization of industrial processes. This talk highlights the global trends in clean energy implementation, and analyses some of the alternatives being pursued. New R&D opportunities, scope for indigenization, and critical role of core engineering disciplines, such as mechanical engineering, in the transition process are also discussed. In addition, some R&D initiatives taken by the speaker's research group are highlighted.

Short bio data : Pradip Dutta is currently Professor in the Centre for Energy Research and in the Department of Mechanical Engineering at the Indian Institute of Science, Bangalore.
Currently, Prof. Dutta's research group focuses on thermal energy storage, advanced cooling technologies, and on technologies related to phase change and adsorption.
Prof. Dutta received his undergraduate degree from IIT Kharagpur, Master's from IIT Madras and Ph.D. from Columbia University, New York, all in Mechanical Engineering. He has been elected Fellow of ASME, ASTFE and Fellow of all the four National Academies of India in Science and Engineering. He has received Distinguished Alumnus Awards from both IIT Kharagpur and IIT Madras, J. C. Bose National Fellowship, and Outstanding Teacher Award from the Indian National Academy of Engineering. He is a former President of the Indian Society of Heat and Mass Transfer.

 <p>Prof. Damodar Acharya Former Director, IIT Kharagpur Chairman, INAE Bhubaneswar Chapter, Chairman, Advisory Board SOA University, Bhubaneswar</p>	 <p>Prof. P. K. Nanda Vice-Chancellor SOA University Bhubaneswar</p>	 <p>Dr. Ramannj Narayan Director, CSIR-IMMT, Bhubaneswar</p>
 <p>Prof. Shreepad Karmakar Director, IIT Bhubaneswar</p>	 <p>Dr. Hirendra Nath Ghosh Director, National Institute of Scientific Education and Research (NISER), Bhubaneswar</p>	 <p>Prof. Renu Sharma Associate Professor, IIT Bhubaneswar, IMMER Addl. Dean, Student Affairs Professor, Dept. of Electrical Engg. IITR, SOA University Bhubaneswar</p>

30th November, 2024
4:30 PM - 6:00 PM, Saturday

https://docs.google.com/forms/d/e/1FAIpQLSeWjKXv3305FFJ3F35Gc6B8bH46LX9p4FD8GChENSin9j/viewform?usp=ppg_at

For registration

Date: 1st December 2024

IEEE Microwave Theory and Technology Society, Student Branch Chapter at Silicon Institute of Technology, Bhubaneswar has been formed



Cecelia Jankowski
Managing Director
Member and Geographic Activities
Phone + 1 732 562 5504
Fax + 1 732 867 9943
c.jankowski@ieee.org

1 December 2024

B Donald McIn
Near DLF, Patia
Bhubaneswar, Odisha 751024
India

Dear B Donald McIn:

Congratulations! It is a pleasure to inform you that the requirements of the Member and Geographic Activities Board Operations Manual have been met and the IEEE Microwave Theory and Technology Society Student Branch Chapter at the Silicon Institute of Technology-Bhubaneswar has been formed. The effective date of this Student Branch Chapter formation is 11 November 2024.

On behalf of the IEEE and its members, I would like to welcome your Branch Chapter to the student program. If you have any questions or need assistance, please do not hesitate to contact our Student Services department at:

Student Services
IEEE Member and Geographic Activities Department
445 Hoes Lane
Piscataway, NJ 08854

student-services@ieee.org, email
+1 732 562 5527, phone
+1 732 463 9359, fax

Sincerely,

Cecelia Jankowski

Cecelia Jankowski
Managing Director
Member and Geographic Activities

cc: L. Fung – Region 10 Director
J. DelaCruz – Region 10 Student Activities Chair
W. Hippola – Region 10 Student Representative
M. Bozzi – Microwave Theory and Technology Society President
D. Kissinger – Microwave Theory and Technology Society Chair, Membership Services
S. Chowdhury – Kolkata Section Chair
S. Bakshi – Kolkata Section Student Activities Chair
P. Mohanty – Student Branch Counselor
A. Bhattacharjee – Student Branch Chair
A. Sahoo – Student Branch Chapter Advisor

The effective date of this student branch chapter formation is 11th November 2024

Date: 14th December 2024

Inaugural talk on Transaction level Verilog and its ecosystem- An EDA revolution at Silicon Institute of Technology

SILICON UNIVERSITY
IEEE MTT-S STUDENT BRANCH CHAPTER PRESENTS

INAUGURAL TALK

TRANSACTION-LEVEL VERILOG AND ITS ECOSYSTEM

AN EDA REVOLUTION

STEVE HOOVER
FOUNDER OF REDWOOD EDA
GREATER BOSTON AREA, USA

14 DEC (SAT) 2024
11:00 AM

Silicon University
Bhubaneswar
Training Hall-2

This talk presents transaction-level design methodology and Transaction-Level Verilog

Register now!
tinyurl.com/bvs24k45



This talk presents transaction-level design methodology and Transaction-Level Verilog which introduce higher-level modeling without sacrificing the ability to express RTL details. Also the talk highlights how TL-Verilog is used to create a flexible RISC-V CPU core generator, how it simplifies FPGA development, and how it is used in low-cost ASIC tapeouts.

Date: 9-10th December 2024

Two days International Workshop on Reconfigurable Robot in collaboration with Wefaa Robotics at Sri Sri University



INTERNATIONAL WORKSHOP ON RECONFIGURABLE ROBOT
In collaboration with Wefaa Robotics
(SUTD invested venture)

09/12/2024
10/12/2024
Shruti Hall



Expert Trainer: Sai Apurnop
Sr. Program Manager at SUTD

Sri Sri Center for Robotic & Automation
Faculty of Engineering & Technology (FET)

Date: 11th December 2024

One day Workshop on GEN AI for Young Achievers at Sri Sri University



BHUBANESWAR SUBSECTION



WORKSHOP ON GEN AI FOR YOUNG ACHIVERS

In collaboration with Degree2Destiny
(Northeastern University, Boston, funded venture)



Anjali Laddha
Founder @ Degree2destiny
3rd year @ Northeastern University
in Boston, USA



11/12/2024

Shruti Hall



Ajay Laddha
Times of India awarded
Generative AI Consultant



Organized by: Faculty of Engineering and Technology (FET)

17th December 2024

IEEE IAS Society Chapter Technical Talk Program at KIIT

Prof. [Sambeet Mishra](#), Professor, Department of Electrical engineering, Information Technology and Cybernetics, University of South-Eastern Norway gave for an exciting talk on "Electricity Market Operation in Scandinavia" under the banner of [IEEE](#) IAS Society Chapter Bhubaneswar Section hosted by KIIT Deemed to University, Bhubaneswar on 17th Dec, 2024.



DISTINGUISHED LECTURE SERIES

INAE Bhubaneswar Chapter has initiated a series of distinguished Lectures with support of SIKSHA 'O' ANUSANDHAN (Deemed to be University) Bhubaneswar and IMMT Bhubaneswar. These Lectures are delivered by the distinguished academicians, researchers and industry experts. They are targeted to the faculty, senior students, researchers and professionals of the region and the follows, young engineers and associates of the academy. The INAE Bhubaneswar Chapter initially plans to have one Lecture per month. The series was inaugurated by the President of INAE, **Professor Indranil Manna**, *JC Bose Fellow, FTWAS, FNA, FNAE, FNASc, FASc, MAPAM, FIE(I), FIIM, FEMSI, FAScT, DSc (hc), PRS, Ph.D* .

Now Distinguished Lecture in this esteemed series is jointly organized by the INAE Bhubaneswar Chapter, Siksha 'O' Anusandhan (Deemed to be University), CSIR-IMMT Bhubaneswar, IIT Bhubaneswar, NISER Bhubaneswar, and IEEE Bhubaneswar Subsection. We are privileged to have the guidance and support of **Prof. Damodar Acharya**, Chairman, INAE Bhubaneswar Chapter, in organizing such impactful lectures. We also thank the **Hon'ble Vice-Chancellor** of Siksha 'O' Anusandhan (Deemed to be University), and the **Directors of IIT Bhubaneswar, CSIR-IMMT Bhubaneswar, and NISER Bhubaneswar** for their unwavering encouragement and support.

Distinguished Lecture _ 33



**Prof. (Dr.) T G
Sitharam**

Chairman, All India
Council for Technical
Education (AICTE), New
Delhi

Date : 20th March, 2024 between 5.00PM to 6.30 PM

Topic: *BUILDING A FUTURE READY INDIA: VISION, PLAN & STRATEGY FOR TECHNICAL EDUCATION BY 2047.*

Key Points : The presentation will provide comprehensive vision, plan, and strategy for shaping the future of technical education in India, aimed at preparing the nation for the challenges and opportunities of the 21st century. By envisioning the year 2047, the centenary of India's independence, as a milestone, the paper outlines a roadmap for transforming the landscape of technical education. Emphasizing adaptability, innovation, and inclusivity, the vision seeks to harness emerging technologies and global trends to equip India's youth with the skills and knowledge necessary to thrive in an increasingly complex and interconnected world. The plan encompasses reforms in curriculum design, pedagogy, infrastructure development, industry-academia collaboration, and policy frameworks. Furthermore, the strategy outlines actionable steps to ensure the scalability, sustainability, and equitable distribution of educational opportunities across diverse socio-economic backgrounds and geographical regions. By fostering a culture of lifelong learning, entrepreneurship, and research excellence, this vision aims to position India as a global leader in technical innovation and human capital development by the year 2047.

You tube Video Recording Link : <https://youtu.be/DLI0zV0TTXs>

People Participated : 127

Distinguished Lecture _ 34



Prof. Anupam Basu
Director of National
Institute of Technology,
Durgapur and a Senior
Professor, Dept. of
Computer Science &
Engineering, IIT
Kharagpur

Date : 21st March, 2024 between 4.30 PM to 6.00 PM

Topic: *Where Language meets Technology.*

Key Points : Language education and STEM are often looked upon as two ends of the pedagogic spectrum. However, with the advent of technology, with Alexa in home, Google responses to our search queries affecting our breathing, language is knocking at the door of the technologists from different corners. The proposed talk dwell on the interaction of language and technology that is becoming all the more important.

You tube Video Recording Link : <https://youtu.be/cid1mu2g7rA>

People Participated : 92

Distinguished Lecture _ 35



Dipti Ranjan Sahoo,
Associate Dean
(Infrastructure)
Professor of Structural
Engineering
Department of Civil
Engineering,
Indian Institute of
Technology Delhi

Date : 9th May, 2024 between 4.30 PM to 6.00 PM

Topic: *“Anti-seismic devices for earthquake resilient infrastructure”*

Key Points : Seismic resiliency of civil infrastructure is extremely important to minimize the unexpected loss of life and properties in the event of a moderate or major earthquake. Traditionally, earthquake-resistant design methods allow the structures to undergo controlled and repairable damages. Unfortunately, many past earthquakes have witnessed the complete collapse of code-compliant structures. In recent years, several vibration control techniques have been developed aiming to mitigate earthquake-induced disasters. This lecture shall highlight the concepts of seismic-resilient design utilizing the recently developed low-cost and affordable anti-seismic devices. A variety of such devices developed using steel and other smart materials shall be discussed. Finally, the issues and challenges in designing seismic-resilient infrastructure shall be highlighted.

You tube Video Recording Link : <https://youtu.be/V81IRmXUG7g>

People Participated : 53

Distinguished Lecture _ 36

Date : 17th May, 2024 between 4.30 PM to 6.00 PM

Topic: *“Artificial Intelligence - Emerging Face of Scientific, Industrial and Social Revolution: Challenges and Opportunities for India”*

Key Points : This talk will provide a glimpse of modern Artificial Intelligence and Machine Learning (AI/ML) and showcase its power and scope in solving scientific, industrial and social problems in a new way. It will also highlight the dangers of using AI/ML in an in appropriate manner and the precautions to be taken. Finally the talk shall present the challenges and opportunities that it offers for a country



Prof. Partha P. Chakrabarti,
Dept of Computer
Science and
Engineering, Indian
Institute of Technology
Kharagpur

like India and its aspirations.

You tube Video Recording Link : <https://youtu.be/MKkxe05Giqs>

People Participated : 65

Distinguished Lecture _ 37



Prof. Venkatesh Kodur
University Distinguished
Professor and Director,
SAFE-D Center
Department of Civil and
Environmental Engineering
Michigan State University,
East Lansing, MI, USA.

Date : 18th July, 2024 between 4.30 PM to 6.00 PM

Topic: "World Trade Center Building Disaster: Stimulus for Fire Safety Innovations"

Key Points : Fire represents one of the most severe environmental hazards to which buildings and built infrastructure is subjected, and thus provision of appropriate fire safety measures is a major requirement in building design. Fires can threaten life safety and also can lead to significant economic and public losses. The magnitude of fire problem is getting worse in recent years, especially in countries like India, due to increasing urbanization, higher fuel loads in buildings, innovative structural and architectural concepts, and the use of high performing construction materials with poor fire resistance properties. However, much of the fire safety design provisions in current building codes and standards are based on outdated prescriptive based methodologies that may not be fully applicable to current design scenarios.

The September 11th World Trade Center (WTC) disaster, in which fires played a major devastating role in the loss of life and the destruction of numerous buildings around Ground Zero, offers an ideal case study to highlight the drawbacks in the current fire safety provisions, and to explore innovative strategies for enhanced fire safety in buildings. This 9-11 terrorist incident was the worst building disaster in history resulting in the largest loss of life from building collapses in North America. Following the disaster, the Federal Emergency Management Agency (FEMA), the American Society of Civil Engineers (ASCE), the City of New York, and several other federal agencies and organizations established a high-profile "Experts Team" to investigate the collapse and damage to the buildings around Ground Zero. This 'Building Performance Assessment Team' (BPAT) investigation comprised of site visits to Ground Zero, forensic survey of the WTC site, land-fill, and steel recycling centres, review of videotape records and eyewitness accounts, interviews with building design teams, and analysis using computer models. Based on this information, the team produced a detailed report with a number of recommendations for achieving enhanced fire safety in buildings, and this investigation report was submitted to US Congress. The lessons learned from this investigation offer a unique opportunity to develop innovative strategies and technologies for minimizing the adverse impact of fire hazard in built infrastructure.

People Participated : 48

Distinguished Lecture _ 38



Prof. Radhakant Padhi

Professor, Dept. of Aerospace Engineering
Associate Faculty, Center for Cyber Physical Systems
Indian Institute of Science, Bangalore, INDIA

Date : 19th July, 2024 between 4.30 PM to 6.30 PM

Topic: "Autopilot Inspired Artificial Pancreas for Type-1 Diabetic Patients of India"

Key Points : Type-1 diabetic patients have pancreatic failure and are incapable of secreting any insulin to the blood plasma. Hence, if untreated, they cannot live for long time. The current practice, which is largely followed in the world, is through daily multiple insulin injections. Unfortunately, however, besides being a painful practice, it normally leads to gross inaccuracies, thereby not being able to harvest the full potential of insulin. Fortunately, commercially available insulin pumps are now available which can be programmed to deliver the desired amount of insulin in a very slow rate. However, because they operate continuously for a long time, inaccuracies in manual programming also leads to inaccuracies leading to glucose excursions beyond the desired limits. To address this issue, the current in the world is to develop robust closed-loop feedback system, called artificial pancreas, where a small amount of insulin is continuously infused to the patient's body through the subcutaneous route by an insulin pump, depending on the situation of the patient as sensed by the subcutaneous CGM sensor.

This talk will give an overview of the Artificial Pancreas (AP) concept, followed by the specific activities being carried out by the speaker at the Indian Institute of Science, in collaboration with MS Ramaiah Medical, in Bangalore, towards development of an effective artificial pancreas system for Type-1 diabetic patients of India. A large part of this research has been inspired by the speaker's experience in designing AP (auto-pilot) systems for aerospace systems. From a modest beginning in 2017, substantial progress has been made in both back-end and front-end developments, leading to successful lab testing followed by clinical trials under controlled environment. The current status of this research as well as the future plan of action towards realizing this dream will be outlined in this talk.

People Participated : 96

Distinguished Lecture _ 39



Prof. Surjya K. Pal

Professor, Department of Mechanical Engineering
at IIT Kharapur

Date : 30th September, 2024 between 4.30 PM to 6.00 PM

Topic: "Human-Centric Manufacturing - a new era"

Key Points : The transition from handmade tools and steam-operated machines to internet-driven operations clearly illustrates that technology is the cornerstone of industrial growth. While automation, digitization, and data-driven processes have long been integrated into various industries in the era of Industry 4.0, the human-centric approach was lacking in this industrial revolution. Industry 5.0 introduces human-centric innovation by integrating human intelligence with the capabilities of machines, artificial intelligence, and robotics. With the three pillars of Industry 5.0, namely, human-centric, resilience and sustainability, it incorporates human-machine collaboration for improved decision making, work-life balance and adaptability of process. Describing the different enabling technologies and techno-functional principles of Industry 5.0, this presentation aims to provide a comprehensive understanding on the role of humans as creative decision-makers while machines handle repetitive or dangerous tasks. Key elements of this presentation will include cognitive artificial intelligence (C-AI).

You Tube Video Recording Link : https://youtu.be/DDA_KIpfZk8

People Participated : 66

Distinguished Lecture _ 40



Prof. Sudeshna Sarkar

Professor, Department of
Computer Science &
Engineering, IIT
Kharagpur

Date : *1st October, 2024 between 4.30 PM to 6.00 PM*

Topic: *“Uncovering Bias and Perspectives in News: NLP Approaches for Automated Content Analysis”*

Key Points : In today’s media landscape, where news reporting is often subjective, understanding diverse perspectives is essential. This talk delves into automated news content analysis using Natural Language Processing (NLP) techniques to extract events and arguments, and for examining biases and variations in news coverage.

We focus on identifying selection, coverage, and statement biases through both machine learning (ML) and large language model (LLM)-based approaches. Key tasks include event extraction, stakeholder analysis, sentiment prediction, and bias detection, with a particular emphasis on few-shot and zero-shot settings to enhance model generalizability across various news domains. Notable contributions include a joint event extraction model, a natural language inference method for news aspect identification, and stakeholder classification using P-tuning. Additionally, we explore methods to mitigate sentiment bias in news articles using sentence rewriting techniques. This research introduces innovative methodologies, advancing computational journalism and providing valuable tools for analyzing modern media narratives.

You Tube Video Recording Link : <https://youtu.be/U2L9wdbXTNk>

People Participated : 62

Distinguished Lecture _ 41



Dr. Shankar S Mantha

Chancellor, RB
University, Nagpur

Date : *3rd October, 2024 between 4.30 PM to 6.00 PM*

Topic: *“AI in Education”*

Key Points : The application of Artificial Intelligence (AI) in education holds the potential to revolutionize the learning experience for both educators and students. AI technologies, such as sentiment analysis algorithms, can be trained to interpret complex emotions and concepts, including those found in Sanskrit Shlokas. By identifying not only the positive or negative sentiments but also the specific emotions conveyed in the text, AI offers deeper insights into educational content and emotional intelligence, paving the way for more personalized and effective learning experiences.

You Tube Video Recording Link : <https://youtu.be/zs7Mibf94vM>

People Participated : 49

Distinguished Lecture _ 42



Prof. Debdeep Mukhopadhyay

Institute Chair Professor,
Dept. of Computer Science
and Engineering,

Date : *30th October, 2024 between 4.30 PM to 6.00 PM*


Topic: *“Hardware Security in the Modern World: From Things to Cloud”*

Key Points : Cryptography plays a vital role in securing electronic transactions. However, in spite of their mathematical robustness when these algorithms are translated to concrete implementations there can be opportunities for attacks due to weaknesses in underlying implementations.


Hardware Security addresses this gap between theory and practice, and attempts to model these menacing side-channel leakages. The talk emphasizes some key findings in this amazing journey of translating crypto-theory to practically secure-systems, starting with an optimal differential-fault-analysis of the Advanced-Encryption-Standard, which is the de-facto standard block-cipher world-wide. Subsequently, we take a quick peek into our contributions in fault-tolerance in

<p>Indian Institute of Technology Kharagpur, India</p>	<p>cryptography, where we unearth how countermeasures can be compromised using novel fault-analysis, along with how such countermeasures can be assessed for leakage using scalable test-methodologies. The talk then shifts its focus to the domain of micro-architectural leakages which presents some of the earliest reports world-wide of exposing how computer architecture developed with only performance in perspective can compromise ciphers. The talk subsequently briefs our fundamental contributions in promoting usage of novel hardware-security primitives, called Physically-Unclonable-Functions for authentication in resource constrained environments, like Internet-of -Things (IoT). The talk concludes with our recent break-through in making encrypted-search a reality, addressing privacy concerns in the pervasive cloud.</p> <p>You Tube Video Recording Link : https://youtu.be/DnF9QUmb5aY</p> <p>People Participated : 178</p>
--	--

Distinguished Lecture _ 43

 <p>Dr. Shibashish Giri</p> <p>Endogenous stem cell specialist in Medical Research and Therapy in Medical faculty of University of Leipzig and Technical University of Munich, Germany. Chief Scientific Officer (AB Company, UK, USA) adjunct professor in MIPT, Moscow, Russia and other European Universities</p>	<p>Date : <i>13th November, 2024 between 4.30 PM to 6.00 PM</i></p> <p>Topic: "Nobel Discoveries for Health and wellness"</p> <p>Key Points : The Nobel Prize-winning technology of 2023 in medicine have witnessed a revolutionary development in the field of mRNA technology in medicine, have now become universally accepted for best solution for both early diagnostic as well as for therapeutic applications for all kind of diseases. We have also discovered wide range of mRNA and established mRNA profiles to detect diabetic, prediabetic, osteoporosis, heart blockage, liver cancer, fatty liver and breast cancer in 5 to 7 years in advance. Conventional diagnostics are complex, expensive and time consuming, but the mRNA diagnostic could be a simple, blood based super sensitive diagnostic tool to detect the diseases in very very early stage. Crucially, mRNA technology is simple enough that it should be possible to make these next generation of treatments and diagnostic wide range diseases around the world including Odisha, at low cost, even in places with few resources. The mRNA-based inventions present, Odisha could be a next generation state-of-the-art technique in early diagnostic tools production and huge therapeutic potentials.</p> <p>You Tube Video Recording Link : https://youtu.be/AyvTe6U2tQU</p> <p>People Participated : 125</p>
---	--

Distinguished Lecture _ 44

 <p>Prof. Ashok Kumar Gupta</p> <p>Professor (HAG) in the Environmental</p>	<p>Date : <i>14 November, 2024 between 4.30 PM to 6.00 PM</i></p> <p>Topic: "Transforming India's water and wastewater management: Treatment technologies, Sustainable Practices, and Resource Recovery"</p> <p>Key Points : With the advent of human civilization, water and wastewater management have been integral aspects of human life, as evident from the developments of the Indus Valley civilization. While certain challenges remain unchanged, such as the need for clean water, advancements in technology, and population growth have introduced new complexities that must be addressed scientifically and sustainably. In this regard, the presentation addresses the state of water and wastewater management in India. It emphasizes the amount of wastewater generated, existing treatment technologies, and policy aspects. It also highlights natural and sustainable methods for treating wastewater, along with</p>
---	--

<p>Engineering Division in the Department of Civil Engineering at the Indian Institute of Technology Kharagpur</p>	<p>effective fecal sludge management techniques and resource recovery practices. Additionally, the discussion covers current water demand, the installed capacity of water treatment plants, and innovative space-saving technologies. Furthermore, various government initiatives for water supply in both rural and urban areas are presented. By focusing on these aspects, the presentation aims to provide insights into the challenges and solutions for managing water resources effectively across the country.</p> <p>You Tube Video Recording Link : https://youtu.be/oiMu_FZ7t8Q</p> <p>People Participated : 65</p>
--	--

Distinguished Lecture _ 45



**Prof. Makarand
Madhao Ghangrekar**

Director of National
Institute of Technology,
Puducherry and
Professor in Department of
Civil Engineering, IIT
Kharagpur

Date : 16 November, 2024 between 4.30 PM to 6.00 PM

Topic: "Biological and bio-electrochemical wastewater treatment technologies and their efficacies for imparting sustainability to wastewater treatment"

Key Points : Growing scarcity of fresh water reserves and ever-increasing demand for water have led to a condition where the option of reuse of treated wastewater need to be encouraged. Innovative wastewater treatment plants aiming not only at treating the wastewater, but also providing benefits, such as facilitating reuse of treated water, resources or nutrient recovery, are the need of the day. Conventional sewage treatment either require huge land or high capital, maintenance and operational costs, and/or huge energy requirements; which make them unsuitable for use in developing countries. Energy efficient low-cost wastewater treatment systems are the best choice for such countries.

On Campus of IIT Kharagpur two sewage treatment plants with capacity of 300 m³/day and 1350 m³/day, comprising of moving bed biofilm reactors and tertiary treatment combinations are installed. Performance of these plants along with life cycle costing will be presented.

Microbial fuel cell (MFC) is one of the popularly adopted configuration of BES, and scientist have widely explored it for treatment of various wastewaters, using them as fuel, and recovering direct electricity for onsite use. However, practical applications of MFCs are limited because of higher fabrication cost of it due to involvement of costly membrane and electrode catalyst. The research efforts undertaken at IIT Kharagpur on development of low-cost ceramic membrane separator and non-platinum-based electrode catalysts for application in MFC considerably reduced the fabrication cost. Utilizing outcome of these investigations a largest (1500 L) pilot-scale MFC based onsite sewage treatment system is designed and constructed at IIT Kharagpur campus. Performance of this 'Bioelectric Toilet (BET)' system for more than two years was satisfactory. This BET is able to treat waste generated from the toilet onsite to produce electricity for illumination of toilet cabin and premises at night and produce reusable quality treated water for flushing the toilet, thus considerably reducing water consumption per use of toilet. In addition, this BET eliminates the problem of smell nearby the toilet due to effective treatment of the waste.

You Tube Video Recording Link <https://youtu.be/gQCL0Lt3-IY>

People Participated : 77

Distinguished Lecture _ 46



**Prof. Hirendra N.
Ghosh**

Director and Senior
Professor of National

Date : 26th November, 2024 between 4.30 PM to 6.00 PM

Topic: "Ultrafast Charge Carrier Dynamics of 2D-Transition Metal Chalcogenides Based Heterosystems"


Key Points : In the last decade, two-dimensional (2D) transition metal dichalcogenides (TMDCs) have received substantial attention due to their high surface-to-volume ratio, excellent charge transfer capacity, low synthesis cost, mechanical strength, and low bandgap energy. Particularly, the layered nature of 2D TMDCs facilitates their integration with other materials to form heterostructures, thereby extending device functionalities and boosting the performance of related optoelectronic devices. The many-body quasiparticles like excitons, biexcitons, and trions play a crucial role in the optoelectronic and photovoltaic applications of 2D heterostructures. To design and develop efficient devices using these heterostructure materials, it is crucial to understand the mechanisms of formation, transportation, and relaxation of free carriers, excitons, and trions, as most of these processes occur on fast and ultrafast time scales. Ultrafast pump-probe spectroscopic studies can play a crucial role in investigating these processes on extremely short (sub-picosecond) time scales. Therefore, in this

<p>Institute of Science Education and Research, Bhubaneswar, Odisha</p>	<p>presentation, we aim to provide a detailed spectroscopic overview of the intricate charge carrier dynamics within 2D TMDCs heterostructures-based solar energy harvesting materials using cutting-edge ultrafast transient absorption and terahertz spectroscopy techniques. We designed various 2D TMDC heterostructures, such as 2D/0D (MoS₂/Au nanoparticles), 2D/1D (MoS₂/CdS), 2D/2D (WS₂/Au nanofilm) and 2D/3D (WS₂/Ni-doped CsPbI₃) and explored the quasiparticle dynamics at their interface to enhance the performance of the fabricated optical devices. The conclusions drawn from our study state that a comprehensive understanding of the charge carrier dynamics would create a new avenue toward the advancement of 2D TMDC-based heterostructure in optoelectronic applications..</p> <p>You Tube Video Recording Link : https://youtu.be/7hKFmsGgNJ0</p> <p>People Participated : 65</p>
---	---

Distinguished Lecture - 47

 <p>Shri Sukanta Nanda, Architect and Mentor, AI and HPC Research Center, IIT Bhubaneswar</p>	<p>Date : <i>28th November, 2024 between 4.30 PM to 6.00 PM</i></p> <p>Topic: “Cybersecurity Attacks and Risk Mitigation Strategies for Critical Infrastructures”</p> <p>Key Points : Cybersecurity attacks on critical infrastructures pose significant risks, as these systems are increasingly interconnected and reliant on digital technologies. Major sectors such as energy, water, and transportation are prime targets for cybercriminals, with ransomware and Distributed Denial of Service (DDoS) attacks being particularly prevalent. For instance, the Colonial Pipeline incident in 2021 exemplified the severe operational disruptions caused by ransomware, leading to widespread fuel shortages across the East Coast of the United States.</p> <p>To mitigate these risks, organizations must adopt comprehensive cybersecurity strategies that include regular system updates, employee training on phishing recognition, and robust incident response plans. Implementing network segmentation and intrusion detection systems can enhance defenses against unauthorized access and control over critical systems.</p> <p>Furthermore, collaboration between government agencies and private sectors is essential to establish effective protection frameworks and share best practices for safeguarding vital infrastructure against evolving cyber threats.</p> <p>You Tube Video Recording Link : https://youtu.be/No4MYtQY2mE</p> <p>People Participated : 60</p>
---	--

Distinguished Lecture _ 48

 <p>Prof. Pradip Dutta Professor, Centre for Energy Research, Department of Mechanical Engineering, Indian Institute of Science, Bangalore</p>	<p>Date : <i>30th November, 2024 between 4.30 PM to 6.00 PM</i></p> <p>Topic: “Transition to Clean Energy – New R&D Opportunities for Engineers”</p> <p>Key Points : Today, the world is facing a major crisis in the form of environmental degradation and climate change. In view of this, governments, international think tanks and policy makers are framing new regulations to phase out conventional green-house gas emitting technologies and give way to newer technologies and practices to arrive at a net-zero emission target within a stipulated timeframe. This talk highlights the global trends in clean energy implementation, and analyses some of the alternatives being pursued. New R&D opportunities, scope for indigenization, and critical role of core engineering disciplines, such as mechanical engineering, in the transition process are also discussed. In addition, some R&D initiatives taken by the speaker’s research group are highlighted.</p> <p>You Tube Video Recording Link : https://youtu.be/TzFMazIzKJc</p>
--	---

	People Participated : 78
Distinguished Lecture _ 49	
 <p>Professor Sunil Murlidhar Shastri Consultant, Educator and Speaker, Ocean and Environmental Governance</p>	<p>Date : 6th December, 2024 between 4.30 PM to 6.00 PM</p> <p>Topic: “One Ocean, Three Approaches, Five Issues, Seven Solutions”</p> <p>Key Points : This talk is based on the philosophy Sunil has adapted, developed, and nurtured throughout his career of over four decades, mainly shaped and formed initially under the tutelage of Elisabeth Mann Borgese. At the heart of the philosophy is how we might inculcate the idea of One Ocean in thought, word, and action. Just as we have only one Planet, there is only one Ocean and not the three or five or seven that our nomenclatures have hitherto defined and described. Having given this reason for his assertion, Sunil moves on to the three approaches, namely, advice, advocacy, and action which he had adopted during the latter half of his career as a consultant, educator and speaker and his related pro-bono work. Sunil then introduces five crucial issues or rudimentary questions that address the contemporary concerns which form the very basis of the existence of our civilisation as we have known and imagined. Finally, Sunil talks about the solutions in the form of what he calls the Seven Pillars of Ocean and Environmental Governance explaining how each one of us belongs to at least one of these pillars and which we can adopt and support in our own professional and personal lives and how education and awareness, a pillar which has been central to Sunil’s entire professional career, may well be looked at as a critical and crucial central pillar</p> <p>You Tube Video Recording Link : https://youtu.be/qRKbiPyFzF0</p> <p>People Participated : 43</p>
Distinguished Lecture -50	
 <p>Prof. Jyotsna Dutta Majumdar Institute Chair Professor, Dept. of Metall. & Maters. Engg., Indian Institute of Technology Kharagpur</p>	<p>Date : 10th December, 2024 between 4.30 PM to 6.00 PM</p> <p>Topic: “Increased Lifetime of Metallic Bio-Implants by Surface Engineering”</p> <p>Key Points : Commonly used metallic materials for bio-implant applications are titanium and its alloys, AISI 316L stainless steel, Nitinol and Co-Cr-Mo alloy. Metallic implants are mostly applied as implants for hard tissue replacement like orthopedic, dental and cardiovascular implants. However, the challenges associated with long term application of metallic implants include its progressive failure due to chemical, mechanical and mechano-chemical interactions in human body, poor osseointegration and biofilm formation. Increasing lifetime of metallic implants is extremely important to minimize implant failure within human body to avoid revision surgery or inflammation within human body. Surface engineering is a tool which may be applied on finished bio-implant to improve its physical, chemical and mechano-chemical properties. However, a proper designing of surface and choice of optimum process and process parameters are mandatory steps prior to its application for specific purposes.</p> <p>In the present talk, followed by a detailed overview of the cause of reduced lifetime of metallic implants, application of different surface engineering techniques to minimize failure of bio-implant would be discussed. The research activities on applications of advanced surface engineering tools like laser and plasma assisted surface engineering techniques in prevention of failure of metallic implants made of Titanium, AISI 316L stainless steel and Magnesium alloys would also be discussed. Finally, the future direction of research in this direction will be stated.</p> <p>You Tube Video Recording Link : https://youtu.be/2B-zQD7vlnE</p> <p>People Participated : 83</p>

Executive Committee selected for the year 2024

Execom 2024 Office bearers

Chair



Shri Hare Krishna
Ratha,
ITR - Chandipur

Vice-Chair



Prof Chinmoy
Kumar Panigrahi,
KIIT University

Secretary



Prof C N Bhende, IIT
Bhubaneswar

Joint Secretary



Prof. Renu Sharma, SOA
University

Treasurer



Prof D P Dogra, IIT
Bhubaneswar

Execom Members 2024

Past Chair



Prof. Ganapati Panda

Past Chair





Prof A K Tripathy






Immediate Past Chair



Prof S R Samantaray


<p>Special Invitees</p>  <p>Prof Ashwini Kumar Nanda, FIEEE, IIT Bhubaneswar</p>	<p>Special Invitees</p>  <p>Prof P K Meher, CVRGU</p>	<p>Special Invitees</p>  <p>Prof P K Nanda, SOA University</p>	<p>Special Invitees</p>  <p>Sri B. B. Mehta, Director – OPTCL , Bhubaneswar</p>
---	--	---	--

Technical Activities Committee






<p>Chair</p>  <p>Prof. Vijay Shankar Pasupureddi, IIT Bhubaneswar</p>	<p>Vice-chair</p>  <p>Prof. Harish Sahoo, VSSUT Burla</p>	<p>Vice-chair</p>  <p>Prof Pradyut Biswal, IIIT Bhubaneswar</p>	<p>Vice-chair</p>  <p>Prof. Sujata Chakravarty, CUTM</p>	<p>Vice-chair</p>  <p>Dr Debadatta Swain, IIT Bhubaneswar</p>
--	--	--	---	--

BHUBANESWAR SUBSECTION




Students Activities Committee

<p>Chair</p>  <p>Prof. Brojo Kishore Mishra, NIST Berhampur</p>	<p>Vice-Chair</p>  <p>Dr. Pratap Ranjan Mohanty, SIT Bhubaneswar</p>	<p>Vice-Chair</p>  <p>Dr Manohar Mishra, SOA Univeristy</p>	<p>Vice-Chair</p>  <p>Dr Sakuntala Mahapatra Trident Academy of Technology</p>
--	---	--	---






Women in Engineering Committee

<p>Chair</p>  <p>Prof. Sujata Chakravarty, CUTM, Bhubaneswar</p>	<p>Vice-Chair</p>  <p>Prof. Umamani Subuidhi, IIIT Bhubaneswar</p>	<p>Vice-Chair</p>  <p>Dr. Devashree Tripathy, IIT Bhubaneswar</p>	<p>Vice-Chair</p>  <p>Dr. Ranjeeta Patel, KIIT DU, Bhubaneswar</p>	<p>Vice-Chair</p>  <p>Dr Shrabani Ghosh, ITR Chandipur</p>
---	---	--	--	---

Newsletter Committee

<p>Chair</p>  <p>Prof. Umamani Subuidhi, IIIT Bhubaneswar</p>	<p>Vice-Chair</p>  <p>Prof. Renu Sharma, SOA University</p>	<p>Vice-Chair</p>  <p>Prof. Bharati Mishra, IIIT Bhubaneswar</p>
--	--	---

Membership Drive Committee

<p>Chair</p>  <p>Prof Chinmay Panigrahi, KIIT DU, Bhubaneswar</p>	<p>Vice-Chair</p>  <p>Prof Ramprasad Panda, SIT, Bhubaneswar</p>	<p>Vice-Chair</p>  <p>Dr Manoj Debnath, SOA University</p>	<p>Vice-Chair</p>  <p>Dr. Niranjan Ray, KIIT DU, Bhubaneswar</p>	<p>Vice-Chair</p>  <p>Dr Pravakar Mallick, ITR Chandipur</p>
--	--	---	---	--

Industry Relation Committee

<p>Chair</p>  <p>Dr Hemanta Rath, TCS Bhubaneswar</p>	<p>Vice--chair</p>  <p>Shri P. K. Patnaik, OPTCL, Bhubaneswar</p>
--	---

Editorial Staffs

Prof. Umamani Subudhi

IIT Bhubaneswar,
Chair Newsletter, IEEE Bhubaneswar Sub Section
umamani@iiit-bh.ac.in

Prof. Renu Sharma

ITER, FET, Siksha 'O' Anusandhan Deemed to be University, Bhubaneswar,
Vice Chair Newsletter, IEEE Bhubaneswar Sub Section
renusharma@soa.ac.in

Prof. Bharati Mishra

IIT, Bhubaneswar,
Vice Chair, Newsletter, IEEE Bhubaneswar Sub Section
bmbharati@gmail.com