



MINDROID

Exploring Excellence

Volume 3, Issue - I



TABLE OF CONTENT

01.	Consolidated Messages	03
02.	Let's Hear From Them	07
03.	Mindroid Activity	10
04.	Achievements & Recognitions	22
05.	Articles	26

The background is a light beige color with a complex pattern of thin, light green circuit lines. Scattered throughout are several stylized, light green icons that resemble simplified human figures or robots, each enclosed in a rectangular frame. The text is centered in the middle of the page.

CONSOLIDATED MESSAGES FOR MINDROID

MESSAGE FROM

Prof. G. S. Tomar

Chairperson
IEEE MP Section



As the Chairperson of IEEE Madhya Pradesh Section, I am delighted to extend my warmest wishes to all of you involved in the creation and readership of the IEEE Kalinga University Student Branch Magazine “Mindroid”. It brings me great pleasure to witness the vibrant energy and enthusiasm that the Student Branch continually invests in fostering innovation, knowledge sharing, and professional development.

Your commitment to producing a high-quality magazine that showcases the brilliant ideas, achievements, and initiatives of talented student members is truly commendable. The articles and features in each edition reflect not only the technical prowess but also the passion and dedication of our budding engineers.

I encourage all contributors to continue exploring new horizons, pushing boundaries, and sharing their valuable insights with the wider IEEE community. The Mindroid plays a pivotal role in disseminating knowledge, inspiring future leaders, and creating a platform for collaboration.

May this edition of the magazine be a testament to the exceptional talent of the Student Branch, and may it serve as a source of inspiration for others to follow suit. I am confident that the stories within its pages will not only highlight the remarkable achievements of IEEE members but also underscore the impact of IEEE in shaping the future of technology.

I extend my heartfelt gratitude to the editorial team for their hard work and dedication in curating yet another insightful edition. Your efforts contribute significantly to the success and reputation of our IEEE MP Section.

Wishing you all continued success, innovation, and a rewarding journey ahead.

Best Regards



MESSAGE FROM

Dr. Y. Vijayalata

Professor CSE & Dean Computer Science
Vardhaman College of Engineering, Hyderabad
Chair - IEEE Hyderabad Section
Treasurer - IEEE India Council
Sub Committee Member - IEEE Humanitarian
Technology Board 2024



As the Chair of the IEEE Hyderabad Section, I am delighted to celebrate the innovative spirit that Mindroid embodies! It is truly inspiring to witness the dynamic energy within the Kalinga University Student Branch, where a strong dedication to fostering innovation, knowledge sharing, and holistic development is ever-present. The exceptional effort invested in creating this outstanding magazine, which showcases the remarkable talents of students, deserves the highest commendation.

The journey of innovation is paved with curiosity, perseverance, and collaboration. Mindroid, with its diverse content and insightful articles, exemplifies these principles. It serves as a beacon for aspiring engineers, encouraging them to delve deeper into their fields of interest and push the boundaries of what is possible. The vibrant community at Kalinga University, through their unwavering commitment to excellence, is a testament to the power of collective effort and shared vision.

In today's rapidly evolving technological landscape, the role of platforms like Mindroid cannot be overstated. They provide a crucial space for young minds to present their ideas, learn from each other, and grow together. The stories of innovation and success featured in this magazine are not just inspiring; they are a call to action for all of us to engage more deeply with our work, think creatively, and strive for excellence.

I encourage everyone to continue exploring new frontiers, breaking down barriers, and exchanging valuable insights, as Mindroid continues to be a vital platform for inspiration and collaboration. This edition stands as a testament to the extraordinary talent within the IEEE community, highlighting IEEE's significant influence on shaping the future of technology. The pages of this magazine are filled with the promise of a bright future, driven by the ingenuity and determination of its contributors.

My sincere appreciation goes out to the dedicated editorial team whose tireless efforts have greatly contributed to the success of the IEEE MP Section. Your commitment to quality and your passion for innovation shine through on every page of this publication. It is your hard work and dedication that make Mindroid a source of pride for the entire IEEE community.

To the entire Mindroid team, I extend my warmest wishes for continued success, innovation, and a fulfilling journey ahead. May each issue serve as a stepping stone to even greater accomplishments, solidifying IEEE's role in advancing technology and fostering collaboration among aspiring minds. As we look to the future, I am confident that the spirit of innovation and the drive for excellence that Mindroid represents will continue to inspire and motivate us all.

In Good Spirits,
Chair, IEEE Hyderabad Section



MESSAGE FROM

Mr. Pravin Kulkarni

Senior GM - R&D and Projects
Godawari Electric Motors Pvt. Ltd.



Dear IEEE Community,

I extended my warmest congratulations to all IEEE community for the wonderful achievement in terms of innovation, passion, participation in every events.

For the past one year, the IEEE MP section & Kalinga University has made excellent progress & arranged wonderful events for the benefit of IEEE members. I wish to name two such programs wherein we have been given a chance to represent ourselves from the EV industry. One was IEEE WIE ILS 2023, which was organised on a large scale & attended by many eminent people & from the industry. Second was Robotech Quest organised in April 2024, which brought very good talent across India.

I take this opportunity to thank the IEEE MP Section & Kalinga University for showcasing ourselves to the IEEE Community. We also look forward to the IEEE community being ready for the future, like EV technology and energy storage technology. I am sure that IEEE shall contribute to this field too.

At Godawari Electric Motors, we are in the process of developing a complete Ecosystem for the EV Industry. One of them is the MoU between Godawari Electric Motors & Kalinga University for setting up state of art EV test Lab to cater to all requirements of EV Powertrains. This is under progress & will be inaugurated soon. The second one is inducting interns from the Mechanical & Electrical Engineering stream to give them EV industry exposure. This will help them to be ready for the EV industry. We are also in the process of inducting all such talented interns into our organisation as Graduate Trainee Engineers. Later on, they will be absorbed into regular service after successful completion of training.

Congratulations once again & all the best for all future activities.



**LET'S HEAR
FROM THEM**

LET'S HEAR FROM THEM

I am pleased to extend my warmest greetings to the IEEE KALINGA UNIVERSITY STUDENT BRANCH on the occasion of the launch of "MINDROID", Volume 3, Issue I. It gives me great pleasure to witness the remarkable progress and accomplishments of our IEEE Student Branch, particularly in the production of this insightful and thought-provoking magazine "MINDROID", with its innovative content and commitment to excellence, stands as a testament to the dedication and intellectual prowess of the students involved in its creation. As we unveil the second issue of this magazine, I am confident that it will continue to serve as a platform for the exchange of ideas, the dissemination of knowledge, and the exploration of cutting-edge technologies. Congratulations to the IEEE Student Branch on this momentous occasion, and my best wishes for the continued success of MINDROID.



Dr. Rajeev Kumar
Chairman
Kalinga University



Dr. Sandeep Arora
Chancellor
Kalinga University

I am delighted to extend my warm greetings to each one of you on the occasion of the launch of "MINDROID", Volume 3, Issue I, by our dedicated IEEE KALINGA UNIVERSITY STUDENT BRANCH. This magazine serves as a testament to the relentless pursuit of knowledge, innovation, and excellence by our brilliant students.

"MINDROID" has become a platform for showcasing the intellectual prowess of our budding engineers, researchers, and innovators. In its second volume, second issue it continues to unravel the latest advancements, cutting-edge technologies, and insightful research articles that reflect the dynamism of the field. I appreciate the teamwork and coordination that went into producing this magazine and wish them all the best.

"MINDROID" has been a platform for sharing innovative ideas, research findings, and technological advancements within the IEEE community. The upcoming Volume 3, Issue I, promises to be an exciting compilation of articles, IEEE activities, recognitions, and features that showcase the intellectual prowess of our IEEE members. The launch of such magazines highlights our collective commitment to pushing the boundaries of knowledge and making impactful contributions to the world of technology. I wish the team at IEEE KU SB all the best for this issue of the "MINDROID" magazine.



Dr. R. Shridhar
Vice-Chancellor
Kalinga University

I commend the IEEE KALINGA UNIVERSITY STUDENT BRANCH for their unwavering commitment to excellence in producing "MINDROID". The dedication, creativity, and hard work of the editorial team and contributors are truly commendable. I believe that this magazine will continue to inspire and evolve a culture of innovation among our student body. I encourage all members of our academic community to actively engage with "MINDROID", contribute their ideas, and embrace the wealth of knowledge it offers. Let this magazine be a source of inspiration, sparking curiosity and encouraging a deeper understanding of the transformative power of technology. On behalf of the entire institution, I extend my best wishes for the success of MINDROID Volume 3, Issue I.



Dr. Sandeep Gandhi

Registrar
Kalinga University



Dr. Vijaylaxmi Biradar

SMIEEE, Joint Secretary &
Chairperson IEEE WIE
AG MP Section, Director IQAC
Kalinga University

"MINDROID" serves as a vital platform for our young engineers and researchers to express their ideas, share their research findings, and contribute to the broader discourse in science and technology. Each issue is a reflection of the hard work, creativity, and intellectual curiosity of our students and mentors. This technical magazine, brought to life by the dedicated efforts of the IEEE Kalinga University Student Branch, represents the spirit of innovation, collaboration, and academic excellence that defines our community. I would like to extend my heartfelt congratulations to the editorial team, contributors, and all members of the IEEE Kalinga University Student Branch.

Let us all take this moment to appreciate the hard work that has gone into making "MINDROID" Volume 3, Issue I, a reality. Let us be inspired by the insights and innovations within its pages, and let us continue to strive for excellence in all our endeavours.

I am thrilled to extend my warmest greetings to each of you as the IEEE SB Counsellor for our esteemed institution. "MINDROID" has consistently been a beacon of knowledge, innovation, and collaboration within our community. As we embark on the journey into Vol-3, Issue-I, I am confident that the passion and dedication of our student members will once again shine through its pages. This magazine stands as a testament to the incredible work and achievements of our IEEE KU Student Branch. It serves as a platform for showcasing the remarkable projects, research, and ideas that have emerged from talented minds. The diversity of topics covered, from cutting-edge technologies to insightful articles, reflects the dynamic nature of our IEEE KU Student Branch community. I want to express my gratitude to the editorial team, writers, contributors, and everyone involved in bringing this magazine to life. Your hard work and dedication have undoubtedly contributed to the success of MINDROID, making it a valuable resource for our members and the broader academic community. I am excited to see the continued success and evolution of MINDROID under the capable leadership of our IEEE KU Student Branch.



Mr. Anup Kumar Jana

IEEE Branch Counsellor
Assistant Professor
(Mechanical Engg.)
Kalinga University

The background is a light beige color with a complex pattern of thin, light green circuit lines. Scattered throughout are several stylized, light green icons of computer monitors or tablets, some of which are slightly tilted. The overall aesthetic is technical and digital.

MINDROID **ACTIVITY**

Participation in Exhibition of CSR Activities at SEML, Siltara- IEEE Outreach Programme

Date: **26-01-2024**

Sarda Energy & Minerals Limited (SEML), Siltara organised a CSR exhibition on the occasion of their foundation day. To promote the IEEE Outreach and STEM Program, Kalinga University IEEE KU SB participated in the event. Prior to the event, extensive preparations were made to ensure an engaging and visually appealing booth/ stall. We showcased our CSR projects through multimedia presentations, live working model displays, and informative brochures. The booth was designed to attract visitors and facilitate meaningful conversations about our initiatives. The models, facilities and projects displayed and demonstrated are:

1. Remote-controlled water surface cleaning robot (Shown and demonstrated)
2. Smart Garbage Monitoring System (Shown and demonstrated)
3. AR/VR Education content (Shown and demonstrated)
4. Aeromodelling Workshop for Girl Students
5. Robots:
 - Bluetooth-controlled Robot
 - Line following robot
 - G-Sensor Robot
6. Set up of AR VR Labs in Schools
7. STEM outreach program: Best out of Waste
8. STEM outreach program: Drone workshop (Shown and demonstrated) drones
9. STEM outreach program: Portable Foldscope
10. STEM outreach program: Scientific toy
11. STEM outreach program: 12th Foundation Day of Chhattisgarh Regional Science Centre
12. STEM outreach program: Robotics Workshop
13. Distribution of Smart garbage monitoring systems in rural Govt. Schools
14. Distribution of basic amenities in village govt. schools
15. Household survey in the adopted villages of Kalinga University
16. Career counselling for village school students
17. Centre of Excellence in Kalinga University
18. Cloth Donation at Old age home
19. Rainwater Harvesting and safe drinking water in villages

During the exhibition, the Kalinga University team actively engaged with visitors, including industry professionals and the general public. Conversations revolved around our CSR efforts, generating interest and inquiries. Networking opportunities were

utilised to establish connections with like-minded organisations and individuals. Our University also placed a game stall adjacent to the CSR booth, which pulled a huge crowd and helped us deliver our CSR initiatives effectively. Our CSR booth received positive feedback from attendees and garnered recognition for our commitment to social responsibility. Many visitors expressed appreciation for our initiatives. The exhibition provided an excellent platform to showcase our CSR and STEM initiatives and connect with a diverse audience. The positive reception and interest generated reinforce the importance of our commitment to corporate social responsibility.



CSR activities
displayed in the Stall



Participants from Kalinga University
attending the event



Representation of our
University to Corporates



Dr. Vijayalaxmi demonstrated
Pond surface-cleaning robot



Participants Enjoying Science
games at stall

IEEE Membership Benefits

Date: **19-02-2024**

IEEE Kalinga University Student Branch organised an event entitled "IEEE Membership Benefits" on 19th February 2024 in offline mode. The speaker of the event was Mr. Anup Kumar Jana, IEEE Kalinga University Student Branch Counsellor. The key points discussed were:

1. Access to IEEE Xplore Digital Library:
2. Networking Opportunities:
3. Professional Development:
4. IEEE Spectrum Magazine:
5. Technical Communities and Societies:
6. Discounts on Conferences and Publications:
7. Career Resources:
8. Standards Development:
9. Educational Programs:
10. Volunteer Opportunities:
11. Global Recognition:

At the end of the session, the senior students of the IEEE students' branch of Kalinga University shared their experiences as IEEE members and shared their journey and the benefits they availed. In total 94 students from university attended the session.



Event Poster



IEEE KU SB counsellor describing the benefits of joining IEEE



Participants attending the program



Student sharing his experience at IEEE KU SB

IEEE MP Section & IEEE Kalinga University SB Celebrated Women's Day and Launched Weस्मृति

Date: **07-03-2024**

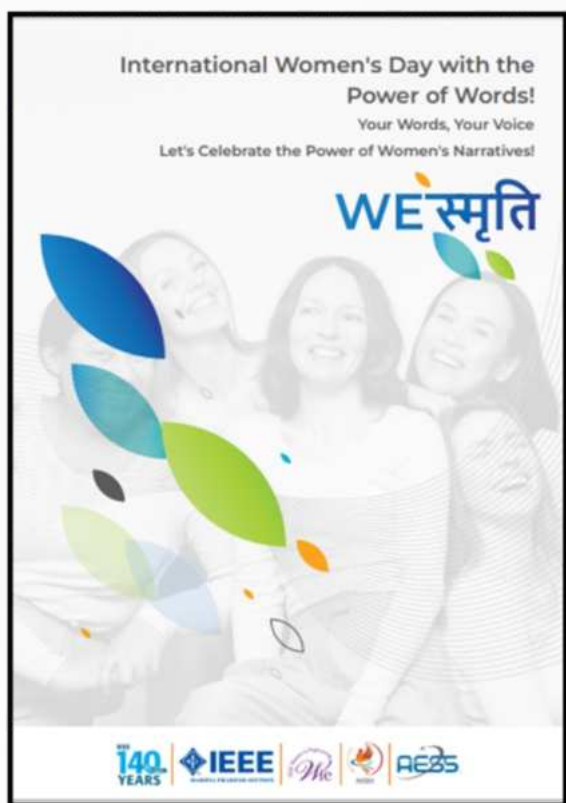
IEEE Madhya Pradesh Section and IEEE Kalinga University Student Branch jointly celebrated International Women's Day 2024 at the Kalinga University auditorium. The Vice-Chancellor, Registrar of the University, and Faculty Members joined the event in offline mode. The Chairperson of the IEEE MP Section and participants from various organisations attended the event in online mode. The theme of the celebration was to launch a magazine that contains articles by women from Industries, Academia & Homemakers on Creative Thinking, Healthy Life, Me Hours, Positivity and Stress Management.

Prof. G. S. Tomar, the Chairperson of the IEEE MP Section, congratulated the University, and the team members who worked tirelessly to organise this event. Besides, he congratulated Dr. Vijayalaxmi, Chairperson of IEEE WIE AG MP Section and her team, who put together the thoughts of women from different backgrounds in the form of a magazine “Weस्मृति”. The Vice-Chancellor, Kalinga University spoke about the equality of individuals irrespective of gender. The Registrar, Kalinga University, shared the history of women's empowerment in India and their importance in our daily lives. 88 articles were received from the contributors of various states to bring life to the magazine.

The words of women are increasingly recognised and valued, there arises a need for a platform that not only celebrates their achievements but also empowers them to reach greater heights. “Weस्मृति” is a groundbreaking magazine dedicated to showcasing the stories, experiences, and aspirations of women from all walks of life. The Vice Chancellor of Kalinga University launched the magazine and wished for the continuous success of such initiatives.



Event
Poster



The Magazine Cover page with the Editorial Team

KALINGA UNIVERSITY

Event - International Women's Day

Few Articles from the Magazine :

Creative Thinking

Let's celebrate how powerful ideas can change the world on International Women's Day. First of all, when one embraces one's imagination, the possibilities for creativity and problem-solving are unlimited. Second, fresh ideas and ground-breaking discoveries can be produced through creative thinking. Thirdly, encouraging a creative atmosphere promotes cooperation and a range of viewpoints. Furthermore, engaging in creative activities like reading, writing, or the arts enhances our creative abilities. Progress and growth also result from questioning accepted wisdom and investigating novel concepts. Furthermore, rather than being a setback, failure becomes a teaching opportunity when we tackle difficulties creatively. Keep in mind that creativity has no boundaries and that it thrives when it is cultivated with bravery and curiosity. Let's encourage one another to communicate, unleash our creative potential, and leave a lasting impact on the world.

Ms. Seja Pal
Student
Institute of Technology, Bhubaneswar

Stress Management

Stress management means to reduce the negative impacts caused by stress and to improve a person's physical and mental well-being. It is very obvious that we cannot avoid all kinds of problems given rise to stress but there are many stressors in our life which we can definitely eliminate. It is important to learn how to manage stress and deal with it. Managing stress can help you lead a more balanced, healthier life. Firstly, it is mandatory to identify the cause and try to make things easier by avoiding them and surrounding yourself with the relevant (person, things, activities, etc). Sharing problems/thoughts with our beloved ones, spending time with our loved ones or doing something what makes one's happy can be some way that will reduce stress. Doing exercises, meditation, drinking proper water and, moreover, a healthy diet would help to reduce the side effects of stress on one's health.

"IT'S NOT STRESS THAT KILLS US, IT IS OUR REACTION TO IT."

Ms. Sukshi Sinha
Student
Kalinga University, Bhubaneswar

Raiki - A valuable tool for holistic healing.

Raiki healing, a Japanese technique for stress reduction and relaxation, has gained popularity worldwide. It is based on the idea of channelling universal life energy through the practitioner's palms to the patient, promoting emotional, mental, and physical well-being. Originating in the late 19th century, Raiki focuses on balancing energy fields to alleviate ailments and enhance overall health. It can accelerate healing, reduce pain, and induce deep relaxation. During a session, the practitioner places their hands lightly on or just above the client's body, allowing the energy to flow through them. Raiki is an alternative approach to health and wellness as a complement to traditional medicine. Its focus on restoring harmony on physical, emotional, and spiritual levels makes it a valuable tool for holistic healing.

Dr. Sanjyukta Gandhi
Educator & Raiki Master
Bharat Mata Senior Secondary School

Positivity

Positivity is a powerful force that can transform both our mindset and our experiences in life. Embracing positivity allows us to approach challenges with optimism, resilience, and a proactive attitude. Here are some thoughts on positivity:

- 1. Mindset Matters:** Cultivating a positive mindset can make a significant difference in how we perceive and navigate the world around us. By focusing on the good in every situation and maintaining a hopeful outlook, we empower ourselves to overcome obstacles and find opportunities for growth.
- 2. Strength in Adversity:** Positivity doesn't mean ignoring or denying the existence of challenges; rather, it's about facing them head-on with courage and determination. When we maintain a positive attitude during difficult times, we tap into our inner strength and resilience, enabling us to endure hardships and emerge stronger on the other side.
- 3. Gratitude and Appreciation:** Practicing gratitude fosters a sense of contentment and abundance in our lives. By acknowledging and appreciating the blessings, big and small, we cultivate a positive perspective that amplifies our overall sense of well-being.

Dr. Sheetal Sharma
Professor and Dean
VIT, Bhubaneswar

A Date with I, Me & Myself

We ladies are naturally multitaskers or rather we are trained to be so. Is it a BANE or a BOON? We can never compromise on our work. We ladies must start accepting that it's okay to be not okay. The feel of guiltiness must be wiped when we do things that makes us feel happy and satisfied. The concept of "ME TIME" must be habituated. We must learn to dedicate ourselves few hours to perform things that makes us feel happy. It could be a Solo Drive, Reading a novel, Dancing, Painting, Meditation or anything. In doing so we not only protect our physical and mental health but also, we feel empowered right from within.

Dr. S. Harikandhagiri
Professor and Head,
EE Department
CUCES

Positivity

Celebrating International Women's Day, let's deep the power of positivity in a world filled with diverse perspectives, each woman contributes a unique shade to the vibrant palette of human experience. Positivity blooms when we acknowledge and celebrate these differences, fostering an inclusive environment where every voice is heard and valued. Let's uplift one another, recognising that the strength of unity lies in embracing the beauty of individual minds. Together, we create a harmonious symphony, echoing the resilience, creativity, and grace that define the spirit of all beautiful minds on this special day.

Ms. Sakeena Sakeen Shahnaz
Headline & CEO - Xpert Learning
Association for Professionals & Students

Articles

Personality Development Session

Date: **11-03-2024**

Mr. Pitamber Pandey from Million Minds was invited to deliver a talk. During this session, he discussed the following points.

Self-awareness: Participants engaged in introspective activities and discussions to identify their strengths, weaknesses, values, and aspirations. Various self-assessment tools were utilised to facilitate a deeper understanding of individual personalities and preferences.

Confidence Building: Strategies for building self-confidence were explored, including positive self-talk, setting achievable goals, and overcoming self-doubt.

Interpersonal Skills Development: The importance of effective interpersonal relationships in personal and professional life was discussed. Participants learned conflict resolution techniques, negotiation skills, and strategies for building rapport and networking.

Goal Setting and Action Planning: Participants were guided through the process of setting goals related to their personal and professional development.

The session provided participants with valuable insights, practical skills, and actionable strategies to enhance their overall personality and effectiveness in various aspects of life. Participants reported increased self-awareness, confidence, and interpersonal skills, enabling them to navigate challenges with resilience and achieve their goals more effectively. In total, 127 students from the university attended the session.



Speaker delivering the session



Participants attending the session

IEEE MP Robotech Quest, The IEEE R10 Robotics Competition 2024: Stage-1

Date: **29-04-2024**

IEEE Madhya Pradesh Section and IEEE Kalinga University Student Branch organised the IEEE R10 Robotics Competition 2024: Stage-1 today at Kalinga University, Raipur. This prestigious event was organised in collaboration with Sarnbasva University, Kalaburagi IEEE GNDEC, Bidar, and IEEE SB Jain College, Nagpur. The Registrar of the University, along with faculty members, students, participants, and volunteers from various prestigious institutions all over the country, joined the event in Hybrid Mode.

Prof. G. S. Tomar, the Chairperson, IEEE MP Section congratulated the University, and all participants who worked tirelessly to organize this event. Besides he congratulated Dr. Vijayalaxmi, Chairperson of IEEE WIE AG MP Section for her dedication and efforts.

Dr. Sandeep Gandhi, Registrar, Kalinga University spoke about the literal meaning of the word ROBOTICS and the first ever Robotic Engineer. He encouraged the students for attending and promoting such events. Mr. Pankaj Tiwari, Director CCRC also graced the event with his presence.

The event was keenly scrutinised by two judges Dr. B. Sangmesh, Associate professor, School of Engineering, JNU, New Delhi Connected online and Mr. Pravin Kulkarni, Senior GM, R&D and Projects, Godawari Electric Motors Pvt Ltd, Chhattisgarh. The evaluation was carried out with 150 marks by each judge by observing various parameters set for robotic evaluation. A total of 23 teams from 7 different states participated in the event. Many school students also witnessed the event and were motivated to pursue STEM education.

Mr. Pratham and his team were the Winners of the competition with a cash prize of INR 8000/-. Mr. Somasundaram S. and the team secured the 1st Runner-up position with the cash award of INR 4000/- and Mr. Anshit Mishra and the team secured 2nd Runner-up position with INR 2500/- cash prize. The top two teams will be nominated for the Stage 2 of the competition. Overall, the event has created a significant impact on the student community.



Event Poster



Dr. Vijayalaxmi Welcomed the Judge



Certificate distribution to Winners



Group Photograph of the Event

Best Out of Waste Workshop

Date: **05-06-2024 to 07-06-2024**

IEEE Kalinga University Student Branch jointly with Chhattisgarh Regional Science Center organized the "Best out of Waste" workshop aimed to inspire creativity and environmental awareness among primary and middle school students.

Held at the Regional Science Centre, the event focused on educating young minds about the importance of recycling and reusing waste materials creatively. The workshop featured various hands-on activities where students crafted useful and decorative items from everyday waste materials.

Activities and Crafts:

1. Plastic Bottle Craft:

- ▶ Description: Students learned to repurpose plastic bottles into useful household items like planters, bird feeders, and decorative items.
- ▶ Skills Developed: Cutting, painting, and decorating plastic bottles, fostering creativity and hand-eye coordination.

2. Water Fountain with Plastic Bottle:

- ▶ Description: Using plastic bottles, students created functional water fountains, incorporating principles of basic hydraulics.
- ▶ Skills Developed: Understanding fluid dynamics, assembling parts, and enhancing technical creativity.

3. Air Cooler from Crafts:

- ▶ Description: Participants constructed a small air cooler using materials such as plastic bottles and fans, demonstrating an understanding of cooling mechanisms.
- ▶ Skills Developed: Engineering basics, creative problem solving, and crafting.

4. Water Dispenser:

- ▶ Description: Students built a simple water dispenser using recycled plastic bottles and tubes, learning about gravity and water flow.
- ▶ Skills Developed: Practical application of scientific concepts, crafting skills, and creativity.

5. Plastic Spoons Candle Holder:

- ▶ Description: This activity involved making elegant candle holders from discarded plastic spoons, emphasising the aesthetic use of waste.
- ▶ Skills Developed: Designing, melting and moulding plastic and artistic expression.

6. Lantern with Ice Cream Sticks:

- ▶ Description: Students created decorative lanterns using ice cream sticks and other recycled materials, promoting the reuse of everyday items.
- ▶ Skills Developed: Structural design, artistic creativity, and handcrafting.

35 students from various nearby schools attended the workshop.



Ongoing Workshop Day1



Post-workshop Day1 Photograph of Session Coordinator and Students



Ongoing Workshop Day2



Post-workshop Day 2 Photograph of Session Coordinator and Students



Ongoing Workshop Day 3



Post-workshop Day 3 Photograph of Session Coordinator and Students

साइंस सेंटर में बच्चे बना रहे वेस्ट से बेस्ट



साइंस सेंटर में अनुपयोगी वस्तुओं से उपयोगी चीज बनाते बच्चे। • साइंस सेंटर

छत्तीसगढ़ रीजनल साइंस सेंटर में पौधारोपण और बेस्ट आउट ऑफ वेस्ट कार्यशाला का आयोजन किया जा रहा है। मुख्य अतिथि के रूप में महानिदेशक छत्तीसगढ़ रीजनल साइंस सेंटर एसएस बजाज ने कहा कि पौधारोपण से न केवल हमारा पर्यावरण हरा-भरा बनेगा, बल्कि यह हमारी आने वाली पीढ़ियों के लिए एक स्वस्थ और

स्वच्छ वातावरण सुनिश्चित करेगा। इस दौरान सभी ने पर्यावरण संरक्षण की दिशा में सकल्प लिया। समर कैम्प में विद्यार्थियों को प्लास्टिक बोतलें और कंटेनर, कागज और गत्ता कपड़े और फैब्रिक स्क्रैप का उपयोग कर पेन स्टैंड, पौधे लगाने के गमले और डेकोरेटिव आइटम्स के साथ वाटर कूलर और टेबल लैप बना रहे हैं।

Newspaper Coverage of the Workshop

साइंस सेंटर में बेस्ट आउट ऑफ वेस्ट कार्यशाला



छत्तीसगढ़ रीजनल साइंस सेंटर में बुधवार को 'बेस्ट आउट ऑफ वेस्ट' समर कैम्प आयोजन किया गया। मुख्य अतिथि छग रीजनल साइंस सेंटर महानिदेशक एसएस बजाज रहे। मौजूदा विद्यार्थी एवं सेंटर के सदस्यों ने भी वृक्षारोपण किया। तीन दिवसीय बेस्ट आउट ऑफ वेस्ट समर कैम्प का प्रारंभ बुधवार से किया गया, जिसमें बच्चों को वेस्ट वस्तुओं से बेस्ट समान बनाने की प्रक्रिया बताई जाएगी। ताकि वस्तुओं का अधिक से अधिक से प्रयोग हो और कचरा ना फैले।

The background is a light beige color with a complex pattern of thin, light green circuit lines. Scattered throughout the background are several stylized, light green computer monitor icons. The central text is prominently displayed in the middle of the page.

ACHIEVEMENTS & RECOGNITIONS

1. Volunteer Selection of IEEE Madhya Pradesh Section 2024

Date: January 2024

The following IEEE Members from Kalinga University have been selected for the position mentioned under the IEEE R10 Madhya Pradesh Section.

Sl. No.	Name	Position
01.	Dr. Vijayalaxmi Biradar	Joint Secretary & WIE Chair
02.	Dr. Anu G. Pillai	Vice Chair, IEEE WIE
03.	Mr. Anup Kumar Jana	Vice Chair, Web Management
04.	Mr. Sarat Chandra Mohanty	Vice Chair, Newsletter
05.	Dr. Anita Verma	Vice Chair, Publicity



IEEE MP Section Executive Committee 2024-25

2. Mentoring towards Opening the IEEE Student Branch

Dr. Vijayalaxmi mentored the following Universities/Institutions to set up their IEEE Student Branches.

- ▶ IES University, Bhopal (MP)
- ▶ Oriental Institute of Science & Technology, Bhopal (MP)
- ▶ Shri Ram Institute of Technology, Jabalpur (MP)

3. Speaker Invitation

Dr. Vijayalaxmi was invited as a speaker by the IEEE Panimalar Student Branch (R10, Madras Section) on 9th March 2024 to deliver a talk on “From Ambition to Action- Cultivating Female Leadership.”



The poster is for a webinar titled "Femmianza" with the theme "FROM AMBITION TO ACTION: CULTIVATING FEMALE LEADERSHIP". It is organized by the Panimalar Group of Institutions in association with the IEEE WIE Madras Section and IEEE Madras Young Professionals. The event is scheduled for 9th March, 2024, from 6:00 to 7:00 PM IST. The guest speaker is Dr. Vijayalaxmi Biradar, who holds several positions within the IEEE organization. The poster lists the student coordinators, staff coordinator, and convenor. It includes registration links and social media icons for IEEE PCSB.

PANIMALAR GROUP OF INSTITUTIONS
In association with **IEEE WIE MADRAS SECTION**
IEEE MADRAS YOUNG PROFESSIONALS
Proudly presents a webinar on
Femmianza
"FROM AMBITION TO ACTION: CULTIVATING FEMALE LEADERSHIP"
9th March, 2024 | 6:00 – 7:00 PM IST

Dr. VIJAYALAXMI BIRADAR
Chairperson IEEE WIE AG MP Section
Joint Secretary IEEE MP Section 2024
Director IQAC, KU, Raipur

Student Coordinators:
Subhaharini P, Shandhini M,
Shahana M, Narmadha K

Staff Coordinator:
Mr. M. Arun | AP | ECE

Convenor:
Dr. S. Rajakumar | HOD | ECE

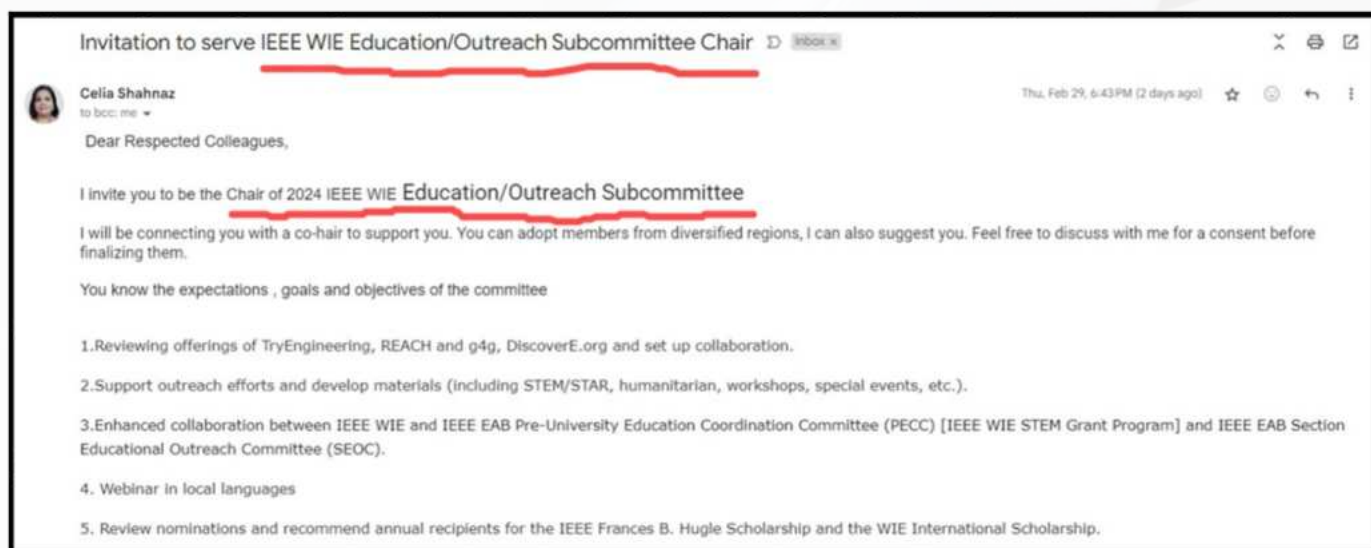
REGISTER bit.ly/Femmianza_webinar2

meet.google.com/eqa-xibs-njf

f i l n x | IEEE PCSB

Event Poster

4. Dr. Vijayalaxmi has been selected as Chairperson 2024 for the IEEE WIE Education/Outreach Subcommittee



Invitation to the event

5. Dr. Vijayalaxmi has been selected as Member of SDA (Sustainable Development Activity) Committee India Council on 26th January 2024





ARTICLES

World of Design in Kalinga University Raipur!

Greetings, dear readers!

In these fast-changing times of everything around us, the only things that are stable are our vision, our goals, and our dreams. The Design Stream is one such segment of education where aspiring students and budding designers come together to idealise, innovate and invent. The Department of Design offers many areas, such as Principles of Design, Design Forecasting, Product Construction, Product Marketing and Management, and much more. Here, we help you build not just your career but a better human being who will be valuable to society and the coming generation. We offer Undergraduate, Postgraduate and Doctoral Programs in Design. We enrich each student with skills that are industry-ready. A Degree that is employable and a student that is ready to take over these challenging times. We hope together, we can learn and grow and create a positive, healthy environment. The Design has no boundaries of creativity, and learning has no age. Students at this one of the top-ranked universities have an opportunity to showcase their skills and talent at National and International platforms under the guidance of our very talented faculty members, who will guide them towards your vision and goals.

Thanks and Regards,



Dr. Mahima Nand

Assistant Professor & HOD
Fashion Design Department
Kalinga University, Naya Raipur

Innovative Solutions to Combat Pollution: Paving the Way for a Cleaner Future

A significant worldwide issue, pollution has an impact on the air, water, and soil. Creative thinking will be needed to overcome this problem and clear the path for a cleaner future. Here are a few innovative tactics:

- 1. Advanced Air Purification:** To efficiently remove air pollutants, urban areas can benefit from electrostatic precipitators and high-efficiency particulate air (HEPA) filters.
- 2. Water Clean-up Technologies:** Floating barriers are used by initiatives like Ocean Clean-up to gather plastic debris from the water. Drones and autonomous robots are also being used to effectively clear waste from beaches and rivers.
- 3. Bioremediation:** This method breaks down contaminants in soil and water by using microorganisms. It is possible to naturally decompose dangerous materials like heavy metals and oil spills by adding particular bacteria or fungi.

It is imperative that we adopt these cutting-edge solutions in order to minimize pollution and protect the environment. We can make sure that everyone has a cleaner, healthier future by making investments in these technologies.

Key words: bioremediation, ocean clean-up, air purification, and pollution



Dr. Shailesh Deshmukh

Assistant Professor, Department of Electrical Engineering
Kalinga University, Naya Raipur
shailesh.deshmukh@kalingauniversity.ac.in

The Intricate Beauty of Indian Traditional Embroidery: A Journey Through Time and Technique

Indian traditional embroidery is a revered art form that has been an integral part of the country's cultural heritage for centuries. This ancient craftsmanship has been passed down through generations, with each region developing its unique style, techniques, and stories to tell. Indian traditional embroidery can be traced back to the Indus Valley Civilization and has evolved over time, influenced by various cultures and dynasties. There are various types of Indian traditional embroidery, such as Kashmiri embroidery, Phulkari, Chikan embroidery, Mirror Work, and Kantha embroidery, each with its own unique techniques and significance. Techniques for Indian traditional embroidery include hand embroidery using needles, threads, yarns, intricate stitches, and the use of natural materials like cotton, silk, wool, and linen. This art form is not only decorative but also carries deep cultural and symbolic significance, often reflecting the region's history, mythology, and values. Indian traditional embroidery is a treasured legacy that continues to inspire people worldwide, and preserving it is essential.



Dr. Smita Premanand

HoD, Department of Fashion Design
Kalinga University, Naya Raipur

Polymeric Nanoparticles: Bridging the Gap in Modern Drug Delivery

The advent of nanomedicine has radically altered the therapeutic landscape, requiring advanced medication delivery systems. Polymeric nanoparticles have the ability to encapsulate various therapeutic payloads, efficiently release them in response to internal and external stimuli, and successfully overcome many biological barriers to target particular regions within the body. Despite their numerous benefits, medical applications underutilise polymeric nanoparticles.

Polymeric nanoparticles in the nanometre range are useful for many things, such as therapeutic targeting, controlled drug release, and protection against degradation both in vitro and in vivo. Polymeric drug nanoparticles are a tried-and-true method for improving the therapeutic efficacy of poorly soluble drugs across all delivery systems. Polymeric drug nanoparticles either enclose drugs within nanospheres or distribute or adsorb them onto their surfaces, forming a monolithic-type structure or matrix. Nanocapsules are a type of vesicular system in which drugs are enclosed in a hollow space with a polymeric membrane surrounding a liquid core. The active ingredient either dissolves within the capsule's inner core or adsorbs onto its surface.

Manipulating the drug's distribution and clearance in the body to improve the drug's therapeutic efficacy while decreasing its adverse effects. Polymeric NPs have several potential applications in the fields of medicine and imaging, including theragnostic, stimuli-responsive systems, drug delivery (including conjugation and entrapment), and prodrugs. Technologies based on NPs are at the forefront of revolutionary developments in nanomedicine, and they are having an effect in areas such as cancer, neurological disorders, and cardiovascular diseases.



Mr. Naimish Nanda

Assistant Professor, Faculty of Pharmacy,
Kalinga University, Naya Raipur

Creative Ways to Save Water:

An Essential for the Future

The world is becoming increasingly concerned about water scarcity, which makes protecting this invaluable resource more important than ever. Water conservation strategies that are original and imaginative can have a big impact on our future. The following are some crucial tactics:

1. **Smart Irrigation Systems:** These systems optimise watering schedules for landscaping and agriculture, minimising water waste by utilising weather data and sophisticated sensors.
2. **Rainwater Harvesting:** Reliance on municipal water supply can be greatly decreased by gathering and storing rainwater for later use.
3. **Water-Efficient Appliances:** Contemporary water-saving washing machines, dual-flush toilets, and low-flow showerheads all contribute to reducing household water usage without compromising functionality.
4. **Leak Detection Technologies:** Real-time leak detection and prevention are made possible by smart water meters and leak detectors, which also lower the chance of water damage. A sustainable water future may be ensured by implementing these innovative ideas. We can save water and safeguard this essential resource for future generations by putting these methods into practice.

Keywords: Conservation of Water, Intelligent Watering, Utilising Rainwater, Recycling Greywater



Mr. Rajendra Kumar Sahu

Teaching Assistant,
Department of Electrical Engineering

Streamlining Attendance with RFID and Facial Recognition

Imagine effortlessly tracking attendance in schools and workplaces without the hassle of manual recording. This is now possible through RFID (Radio Frequency Identification) and facial recognition technology.

RFID tags act like smart cards that uniquely identify individuals. When combined with facial recognition, which verifies identities based on facial features, this system provides strong security against identity fraud and unauthorised access. It automates attendance tracking, eliminating errors from manual methods.

Beyond efficiency, this technology enhances security and simplifies operations in schools, offices, and healthcare settings. It reduces physical contact and supports touchless verification, which is crucial in today's hygiene-conscious environment.

While promising, implementing this system may face challenges like initial costs and privacy concerns. However, ongoing advancements aim to improve accuracy and scalability. Future developments may integrate AI for smarter analytics and IoT for enhanced connectivity.

In conclusion, RFID and facial recognition are transforming how we manage attendance, making it smarter, more secure, and seamlessly integrated into daily routines.



Ms. Shravani Hemant Chaudhari

TE Student at Sandip Foundation,
Sandip Institute of Technology and Research Centre, Nashik

Transforming Attendance Tracking: The Power of RFID and Face Capture

Imagine a school or workplace where marking attendance is no longer a tedious task but a seamless, automated process. This vision is becoming a reality with the integration of RFID (Radio Frequency Identification) technology and facial capture systems.

RFID tags, similar to smart cards, uniquely identify each person. When combined with facial capture, which verifies identities through facial features, this system offers robust security against fraud and unauthorised access. By automating attendance tracking, it eliminates errors associated with manual methods, ensuring accurate records effortlessly.

This technology isn't just about efficiency; it enhances security and streamlines operations across various sectors- education, corporate offices, healthcare, and more. It minimises physical contact, which is crucial in today's hygiene-conscious environments, and supports touchless authentication.

While promising, this system faces challenges like cost and privacy concerns. However, ongoing advancements aim to improve accuracy and scalability, potentially integrating with AI for smarter analytics and IoT for enhanced connectivity.

In conclusion, the RFID attendance system with face capture represents a significant leap towards modernizing workforce management. It not only meets current needs but also paves the way for a future where attendance tracking is smarter, more secure, and seamlessly integrated into daily operations.



Ms. Sneha Sandip Adhav

TE Student at Sandip Foundation,
Sandip Institute of Technology and Research Centre, Nashik

Efficient Federated Learning for Smart Healthcare using Softwarised Edge-Cloud Interplay

Next-generation communication networks is revolutionising the eHealthcare industry by incorporating wearables, connected smart medical devices, electronic health records, mobile health apps, and telemedicine. These technologies enable remote patient monitoring, real-time data analysis, and personalised care. In addition, advanced technologies such as Software-Defined Networking (SDN), Edge-Cloud Computing, Artificial Intelligence (AI), and Machine Learning (ML) are essential in building the next generation of smart healthcare systems. Reduction of medical diagnosis time and assurance of patient data privacy are crucial in healthcare. Edge devices can help cut down latency and keep data closer to the source. However, training efficient AI models on edge devices is difficult due to limited resources and privacy concerns. Federated learning solves this by distributing AI model training across multiple edge devices without transferring data to a centralized server. It keeps data secure, shares the computational burden, and improves accuracy by leveraging a diverse dataset.

We have devised an approach addressing the challenge of training personalised healthcare AI models for specialised hospitals' edge servers. We have developed an efficient and centrally managed Federated Learning (FL) algorithm that can handle non-IID data with label shifts to achieve personalised healthcare while maintaining privacy and security. In our approach, we leverage a Software-defined networking (SDN) integrated centralised server to manage all the participating edge devices. SDN provides a software-based control and automation approach to network management, enabling more centralised control over network infrastructure. This centralised control allows us to efficiently manage the edge servers' participation in the FL process and optimise the overall training process.



Deborsi Basu

Graduate Student Member, IEEE - Research Scholar,
G. S. Sanyal School of Telecommunications, IIT Kharagpur, WB, India

Preserving Personal Privacy: Navigating the IoT Era's Evolution

In today's interconnected landscape dominated by the Internet of Things (IoT), safeguarding personal privacy emerges as a critical imperative. The seamless integration of interconnected devices, while augmenting convenience, underscores the crucial necessity to ensure the protection of the data they collect.

The Data Gathering Dilemma: IoT devices, encompassing smart home assistants, wearable technology, and industrial sensors, intricately collect a diverse array of personal data. Whether it's tracking our movements or monitoring health statistics, these devices intricately weave a digital mosaic of our lives, often without obtaining explicit user consent.

Navigating Complex Privacy Challenges: However, this perpetual data collection poses multifaceted privacy challenges. Vulnerabilities in security systems, looming prospects of data breaches, potential unauthorised access, and the potential misuse of personal information emerge as significant threats. Recent incidents highlight the profound consequences of compromised IoT privacy, necessitating immediate attention.

Regulatory Frameworks and Compliance Conundrums: While regulatory frameworks such as GDPR and CCPA aim to safeguard user data, their adaptability to the dynamic IoT landscape remains uncertain. These frameworks might inadequately address the intricate nuances of IoT data collection, thereby exposing users to privacy risks.

Strengthening Privacy Measures: To confront these challenges effectively, proactive measures are paramount. Implementing robust encryption methods, advocating for transparent data collection practices, and promoting privacy-centric design principles constitute pivotal steps in fortifying IoT privacy. Concurrently, manufacturers must embed stringent privacy features into devices, empowering users with heightened control over their data.

Charting the Path for Future IoT Privacy: The evolving IoT privacy domain necessitates adaptable strategies. As technology evolves, regulatory frameworks must evolve in parallel to tackle emerging challenges effectively. Strengthening these frameworks, investing in advanced encryption methodologies, and fostering a culture that empowers users are indispensable strategies in safeguarding personal privacy amidst the ever-evolving IoT landscape.

Ultimately, preserving personal privacy amidst the IoT surge is a collective responsibility. Balancing technological progress with robust privacy measures is pivotal to ensure that the benefits derived from IoT do not compromise user data security. By advocating for stringent regulations, fostering responsible IoT practices, and nurturing a culture that reveres privacy, we can navigate this interconnected sphere while safeguarding the fundamental right to personal privacy.



Kushal Jain

MCA, 4th Sem, Kalinga University, Naya Raipur

OFFICIAL VOLUNTEERS

IEEE KU SB OFFICIAL VOLUNTEERS



Dr. Vijayalaxmi Biradar
Mentor & WIE Advisor,
IEEE KU SB



Mr. Anup Kumar Jana
Counsellor, IEEE KU SB



Mr. Sarat Chandra Mohanty
AESS Advisor, IEEE KU SB



Mrs. Anu G Pillai
IEEE Volunteer



Dr. Anita Verma
IEEE Volunteer



Ms. Rupal Gupta
IEEE Volunteer



Mr. Ashwan Sahu
IEEE Volunteer



Mr. Hemant Sahu
IEEE Volunteer

NEWLY JOINED MEMBERS

1. Lt. Vibha Chandrakar	Faculty	8. Durga Kunjam	Student
2. Dr. Swapnil Jain	Faculty	9. Sejal Singh Kashyap	Student
3. Ms. Anita Verma	Faculty	10. Nandita Kumari	Student
4. Dr. Shailesh Deshmukh	Faculty	11. Mayank Sharma	Student
5. Divya Sahu	Student	12. Athulya K. S.	Student
6. Isha Dewangan	Student	13. Anjali Bhargava	Student
7. Swadhina Nayak	Student		



KALINGA UNIVERSITY

CONTACT **IEEE KU SB**



ieeeku@kalingauniversity.ac.in



IEEE KU SB, Room No. OBGF 02, Kalinga University,
Naya Raipur - 492101, Chhattisgarh, India