

THE QUARTERLY NEWSLETTER OF NIT RAIPUR



# Mirror

Reflecting the True Spirit of NIT Raipur



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# QUARTERLY GLIMPSES

## HON'BLE VICE PRESIDENT'S VISIT



## 15<sup>TH</sup> CONVOCATION



## ECLECTIKA'25



## REPUBLIC DAY 2025



## AAVARTAN'25



## SAMAR'25





# NIT RAIPUR IN MEDIA

एनआईटी रायपुर और वॉशिंगटन स्टेट यूनिवर्सिटी के बीच एमओयू

**NIT Raipur, DPRD sign MoU to foster research, development**

**NIT Raipur shines bright at All India Inter NIT Sports Meet 2024, secures overall third place**

एनआईटी में पावर, कंट्रोल व कंप्यूटिंग टेक्नोलॉजी पर चौथा आई-ट्रिपलई अंतरराष्ट्रीय सम्मेलन शुरू

**NIT Raipur hosts startup event Pravartan 2024**

एनआईटी में 'इक्लेक्टिका-25' का आगाज

**NIT organises workshop on Lighting & Cinematography**

एनआईटी में हुआ दो दिवसीय वार्षिक तकनीकी महोत्सव - आवर्तन 25 का किया आगाज

**NIT Raipur holds lecture on 'Application of Petrology in Critical Minerals'**

एनआईटी रायपुर द्वारा स्पेस टेक इनोवेशन लेक्चर सीरीज, सेन्सर्स फॉर स्पेस एप्लीकेशन विषय पर विशेषज्ञ व्याख्यान सत्र आयोजित किया

**NIT, IIRS, ISRO to organise online workshop on Martian Surface, Analogs and Atmosphere**

एनआईटी रायपुर एफआईई ने राष्ट्रीय स्टार्टअप दिवस पर नॉलेज शेयरिंग सेशन का आयोजन किया

**NIT Raipur organizes 15th Convocation**

एनआईटी-आईजीकेवी में हुआ एमओयू

**SECL, NIT Raipur sign MoU for construction of girls hostel**

MoU signed between NIT Raipur, Zoom-My-Life, California, USA

**NIT Raipur hosts national conference on NEP 2020**  
Challenges, prospects for *Divyangjans* discussed

**Annual sports fest SAMAR 2025 begins at NIT-Raipur**

**225 गांवों के विकास पर एनआईटी का फोकस**

**NIT organises launching of book 'Reimagining Health'**

**NIT Raipur celebrates National Science Day with eminent speakers**

**NIT Raipur organises Hindi Karyashala**

**NIT hosts lecture on 'Living a Purposeful Life'**

एनआईटी रायपुर ने अंतरिक्ष-तकनीक अनुसंधान क्षमताओं को बढ़ावा देने आकर्षक सत्र का किया आयोजन

एनआईटी रायपुर के मोटोस्पोर्ट्स क्लब के विद्यार्थियों ने फार्मूला भारत प्रतियोगिता में लिया भाग

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## Institute News

### NIT Raipur Hosted Hon'ble Vice President of India Shri Jagdeep Dhankhar



NIT Raipur welcomed **Shri Jagdeep Dhankhar**, *Hon'ble Vice President of India*, and his wife, **Dr. (Smt.) Sudesh Dhankhar**, on 21<sup>st</sup> Jan. 2025, marking a moment of immense honour for the institute. The visit underscored role of institutions like NIT Raipur in shaping a progressive and self-reliant India. With the theme of *Ideas for Building a Better Bharat*, the event centred around innovation, development and encouraging dialogue between students and leaders. The event was graced by **Shri Ramen Deka**, *Hon'ble Governor, Chhattisgarh*, **Shri Vishnu Deo Sai**, *Hon'ble Chief Minister, Chhattisgarh*, **Shri Vijay Sharma**, *Hon'ble Deputy Chief Minister, Chhattisgarh*, **Shri Tokhan Sahu**, *Hon'ble Union Minister, State for Housing and Urban Affairs*, **Dr. N.V. Ramana Rao**, *Director, NIT Raipur*, **Dr. Suresh Haware**, *Chairman, BoG, NIT Raipur*, **Dr. Rajeev Prakash**, *Director, IIT Bhilai*, **Dr. Ramkumar Kakani**, *Director, IIM Raipur*, and **Dr. P.S. Mishra**, *CMD, SECL*.

The visit began with a ceremonial reception at Pt. Deendayal Auditorium, where the **Hon'ble Vice President** planted a sapling under the *Ek Ped Maa ke Naam* initiative. **Dr. Rao** emphasized the role of engineers in addressing critical challenges like water scarcity and expressed heartfelt gratitude to SECL for their generous ₹49 crore grant for a girls' hostel. The **Hon'ble Chief Minister** emphasized youth empowerment through initiatives like green steel and startup support and transforming Naya Raipur into an IT hub, while the **Hon'ble Governor** outlined plans for rural empowerment through sustainable development, including planting 2 lakh trees. The **Hon'ble Vice President** stressed the role of youth in achieving Viksit Bharat, urging the adoption of technologies like **AI** and **Blockchain** while aligning them with Indian values. He urged the *vocal for local* mindset and envisioned Bharat as Vishwaguru by 2047. He also laid the foundation for the **SECL Girls Hostel**, a 500-bed facility under SECL's CSR program. Interacting with students, he encouraged innovation and discipline to position

India as a global leader. The visit concluded with a renewed focus on education and national progress.

### 15<sup>th</sup> Convocation Ceremony at NIT Raipur



NIT Raipur celebrated its **15<sup>th</sup> Convocation Ceremony** at Pandit Deendayal Upadhyay Auditorium on 25<sup>th</sup> Feb. 2025, graced by **Mr. Sanjay Kirloskar**, *Chairman & MD, Kirloskar Brothers* as the *Chief Guest* of the event, and **Dr. S. Somanath**, *Vikram Sarabhai Distinguished Professor (ISRO)* and *Former Chairman ISRO & Space Commission, Govt. of India* as the *Special Guest*. The event was presided over by **Dr. Suresh Haware**, *Chairman, BoG*, with **Dr. N.V. Ramana Rao**, *Director, NIT Raipur*, faculty, and dignitaries in attendance.

A total of **1,319 students** received degrees, including 1,055 UG (B.Tech/B.Arch), 229 PG (M.Tech/M.Sc/DCA), and 35 PhD scholars. Academic excellence was recognized with **27 Gold** and **26 Silver Medals**, including the **Institute Overall Topper Medal** awarded to **Shriyansh Gaur**, *B.Tech, CSE*. For the first time, **Dr. S. Somanath** was honoured with a **Doctor of Science (Honoris Causa)** for his contributions to space science, notably **Chandrayaan-3's** successful landing.

**Dr. Rao** highlighted initiatives like **MoUs with IIT Kanpur and Washington State University**, **patents**, and **startup incubations**, while emphasizing holistic development through events like **Eclectika** and **Samar**. **Dr. Haware** urged graduates to uphold ethics and resilience, citing perseverance over privilege. **Dr. Somanath** inspired students with ISRO's journey, stressing adaptability and tackling national challenges like **AI** and **climate change**. **Mr. Kirloskar** emphasized compassion, lifelong learning, and societal impact. The ceremony concluded with the national anthem, marking a milestone for NIT Raipur's graduating class.

### NIT Raipur celebrated the 76<sup>th</sup> Republic Day

NIT Raipur celebrated the **76<sup>th</sup> Republic Day** on 26<sup>th</sup> Jan 2025 with a ceremony led by **Dr. N.V. Ramana Rao**, *Director, NIT Raipur*. The event commenced with flag-



hoisting by **Dr. Rao**, followed by the national anthem and an NCC cadet parade. In his address, **Dr. Rao** honoured India's freedom fighters and urged students to embrace technology, safeguard democracy, and advocate global peace as responsible citizens.



**Dr. Rao** highlighted the institute's 2024 milestones, including the foundation of a **G+6 academic building**, visits by the *Hon'ble President of India*, **Smt. Droupadi Murmu**, and *Hon'ble Vice President of India*, **Shri Jagdeep Dhankhar**, and enhanced national prominence. A tree plantation drive in Oxygen Park, led by **Dr. Rao**, faculty, and NCC cadets, promoted environmental sustainability.

Cultural performances by student groups and a poetry recital enriched the celebrations. The event concluded with collective participation, reaffirming NIT Raipur's commitment to academic excellence and national pride.

## NIT Raipur Inaugurated Multiple Infrastructural Projects



**NIT Raipur** inaugurated multiple key projects on 21<sup>st</sup> Jan. 2025. The inaugural ceremonies were performed by **Dr. Suresh Haware**, *Chairman, BoG, NIT Raipur*, and graced by the presence of **Dr. N.V. Ramana Rao**, *Director, NIT Raipur*, **Dr. G.D. Ramtekkar**, *Dean (P&D)*, **Dr. L.K. Yadu** and **Dr.**

**A.V. Ahirwar**, *Associate Deans (P&D)*, **Mr. S.P. Shrivastava**, *Executive Engineer*, **Mr. Pawan Kataria**, *Assistant Registrar (P&D)*, **Shri. Jatin Kumar Naik**, *Executive Engineer*, **Shri. Ritesh Kumar**, *Executive Engineer*, **Shri. Pushpraj Kashyap**, *Architect*, and other officials from CPWD, alongside faculty members and staff.

The ceremonies included the laying of the foundation stone for the Academic **Annex-II Building** and the inauguration of the **Geotechnical and Transportation Engineering Laboratory**. Additionally, the **Sir M. Visvesvaraya Courtyard** in the existing academic block was inaugurated, and the institute's annual calendar 2025 was officially released.

## NIT Raipur and SAIL-BSP collaborated on AI Image Processing & ML Training



**NIT Raipur** and **SAIL Bhilai Steel Plant (BSP)** strengthened their academic-industry partnership through two events: **Training program on Advanced Digital Image Processing** on 19<sup>th</sup> Feb. 2025 and a session on **Digital Implementation of ML Algorithms for Power Systems**. The digital image processing workshop, held at **BMDC Bhilai**, focused on AI-driven solutions for defect detection, quality control, and process automation in steel manufacturing. Inaugurated by **Dr. N.V. Ramana Rao**, *Director, NIT Raipur*, and **Mr. S. Mukhopadhyay**, *Executive Director*, the program trained 30 BSP Engineers in MATLAB, Python, and AI-based analytics.

The subsequent session on ML algorithms, attended by 60+ engineers from BSP, NTPC-SAIL, and CSPDCL, emphasized AI/ML's role in enhancing power system reliability. **Dr. Subhojit Ghosh**, *Professor, EE, NIT Raipur*, explained how machine learning outperforms traditional methods in fault detection, using case studies on real-time data analysis. Industry leaders, including **Mr. T.K. Krishnakumar**, *Chief General Manager (Electrical, BSP)*, highlighted AI's potential to reduce downtime and improve decision-making. Both programs, conducted under the **NIT Raipur-BSP MoU**, were coordinated by **Dr. N.D. Londhe**, *Professor, EE, NIT Raipur* and **Ms. Vibha Bhandari**, *Research Scholar, NIT*



Raipur, fostering skill development and joint research initiatives to bridge academia and industry needs.

## NIT Raipur Organized a Book Launch: Reimagining Health



NIT Raipur organized a **Book Launch, Reimagining Health** on 3<sup>rd</sup> Jan. 2025. The event was graced by **Dr. N.V. Ramana Rao**, Director, NIT Raipur, **Dr. Alok Agarwal**, Dean, AIIMS Raipur, **Dr. Samir Bajpai**, Professor, CE, **Dr. Shrish Verma**, Professor, ECE, **Dr. S. Sanyal**, Professor, ME, **Dr. Piyush Kant Pandey**, Vice Chancellor, Amity Raipur and **Dr. Anurag Mairal**, Author, *Reimagining Health Inspiring stories of innovators at the intersection of Health and Technology*. Faculty Members, Staff and Students were also present in the event.

**Dr. Rao** inaugurated the event by highlighting the pivotal role of innovation and collaboration in addressing global healthcare challenges. **Dr. Mairal** emphasized the need to integrate air, water, soil, and animal health into the broader framework of human well-being, urging a unified approach that combines traditional and Western models to reimagine healthcare. He highlighted the significance of fostering interdisciplinary research and data-driven decision-making, themes prominently featured in his book. **Dr. Alok Agarwal** emphasized that health is not merely the absence of disease but a holistic state of overall well-being. **Dr. Pandey** expressed pride in the accomplishments of **Dr. Mairal** and lauded his efforts in inspiring innovators. This was followed by Q&A session, where a PhD scholar from the Department of Chemical Engineering gained valuable insights into addressing plant pathogens and stressed the importance of focusing on skill development and innovation rather than seeking jobs. The event concluded with a vote of thanks by **Dr. Bajpai**.

## Expert Lecture on Living a Purposeful Life at NIT Raipur

NIT Raipur hosted an enlightening lecture under the **Prabodhan program** on 11<sup>th</sup> Mar. 2025, featuring **Swami Atmavidyananda Giri**, Vice President, Kriya Yoga Institute,

as the keynote speaker. The event, attended by **Dr. Samir Bajpai**, Director (I/C), **Dr. Nitin Jain**, Dean (SW), faculty members, alumni, and students, and a sapling presentation to Swamiji. **Dr. Bajpai** highlighted the program's vision of fostering *Gyan Vardhana* (knowledge enhancement) and *Vivek Vardhana* (wisdom enrichment).



**Swamiji** emphasized life as a journey of **Self-discovery** and purpose, citing *Mahabharata* verses to distinguish human intellect and moral discernment. He elaborated on **Kriya Yoga** a practice merging breath control with spiritual action to achieve mental tranquillity and holistic well-being. A practical session on **Deep Breathing** and **Meditation** demonstrated techniques to connect breath with inner divinity, enhancing physical, mental, and spiritual health. The event concluded with a Q&A, where Swamiji addressed queries on mindfulness and community contribution.

## Live Webinar on Investing in Innovation



NIT Raipur webcasted a national webinar on **Investing in Innovation** on 5<sup>th</sup> Mar. 2025, hosted by the **Department of Science and Technology (DST)**. Attended by **Dr. N.V. Ramana Rao**, Director, NIT Raipur **Dr. G.D. Ramtekkar**, Dean (P&D), **Dr. Samir Bajpai**, Head (CDC), faculty members, and students, the session highlighted India's innovation roadmap.

**Prime Minister Narendra Modi** stressed education, AI, and skill development as pillars for **Viksit Bharat**, announcing **₹500 crore** for AI-driven research and **10,000 PM Research Fellowships (PMRF 2.0)** for IITs/IISc. Representatives from *Ministries of Education, Culture, and Surveyor General of India* detailed initiatives like medical seat expansion, digital healthcare, and urban sustainability. A follow-up brainstorming session with 300+ institutional



representatives discussed PMRF 2.0's implementation, fostering academia-industry synergy for national progress.

## National Science Day Celebrations at NIT Raipur



NIT Raipur, in collaboration with the Chhattisgarh Council of Science and Technology and National Council for Science and Technology Communication, celebrated National Science Day on 25<sup>th</sup> Feb 2025. The event, graced by **Dr. N.V. Ramana Rao**, *Director, NIT Raipur*, **Dr. Nitin Jain**, *Dean (SW)*, faculty members, and students, highlighted the theme *Empowering Indian Youth for Global Leadership in Science and Innovation for Viksit Bharat*. **Dr. Rao** emphasized the role of science in addressing global challenges like climate change, renewable energy, and AI-driven advancements.

The day featured **Science Talks** by eminent scholars: **Prof. Kunal Mitra**, *Florida Institute of Technology* who discussed **3D Bio printed cardiovascular tissues for space applications**; **Prof. Himadri Chattopadhyay**, *Jadavpur University* who explored the **philosophy of research**; **Prof. V.V. Raghavendra Sai**, *IIT Madras* who elaborated **Optical sensing for health monitoring**; and **Prof. Sudeshna Mukherjee**, *BITS Pilani* who delved into biotechnology's evolution.

**Poster-making, Drawing, Model-Making, and Quiz competitions** on **Climate Change Mitigation** were held for 200+ students from PM Shri Kendriya Vidyalaya No. 2 and Pandit R.D. Tiwari Government School. Winners included **Shraddha Kurre**, **Rupal Ratan Tiwari**, and **Urvashi Joshi** (*Poster-making*), and teams from Blue, Red, and Primary Groups (*Quiz*). **Dr. Debashis Sanyal**, *Dean (FW)* felicitated participants. The event concluded with a vote of thanks by **Dr. Arindam Bit**, the coordinator of this program.

## Veer Baal Diwas organised by NIT Raipur

NIT Raipur resounded with the commemoration of **Veer Baal Diwas** on 26<sup>th</sup> Dec. 2024, echoing tales of bravery and sacrifice. **Shri Narendra Modi**, *Hon'ble Prime Minister of*

India had announced that 26<sup>th</sup> Dec. is celebrated as **Veer Bal Diwas**. **Dr. Debashish Sanyal**, *Dean (FW)*, **Dr. (Smt.) Swasthi Sthapak**, *Professor, DAP*, **Dr. M.K. Prasad**, *Associate Dean (SW)*, **Dr. T.P. Sahu**, *Assistant Professor, IT*, **Dr. Pawan Kumar Mishra**, *Assistant Professor, IT*, other faculty members, staff, scholars and students participated in this programme.

An engaging short film and a digital exhibition were showcased to mark the celebration. These engaging exhibits played a vital role in highlighting the sacrifices made by the young sons of **Guru Gobind Singh**. The attendees enjoyed the event and felt a sense of inspiration throughout the session. Veer Baal Diwas honours the bravery of **Shri Guru Gobind Singh ji's** young sons, **Sahibzada's Baba Zorawar Singh ji** and **Baba Fateh Singh ji**. Veer Baal Diwas annually commemorates their resilience, reminding devotees and admirers of the enduring spirit that transcends age, inspiring generations with the story of these young martyrs in Sikh history.

## Alumni Meet'25

**Applied Geology Association, DAG** conducted **Alumni Meet 2025, GeoLegacy-A bedrock of Memories** on 1<sup>st</sup> Mar. 2025. A total of about 80 alumni attended the meet from the batch of 1982 to 2024. **Prof. Ghanaram Sahu**, *Government Engineering College, Raipur* was invited as the *Chief Guest* of the event. The event was graced by **Dr. Dalchand Jhariya**, *HoD, DAG*, **Dr. Neeraj Vishwakarma**, *Associate Professor, DAG*, and **Dr. Himanshu Govil**, *Assistant Professor, DAG*. The event was marked with pleasant reunions, and group discussions. The alumni are currently posted under various Government and Private Organizations attended including the Geological Survey of India, MOIL, and Ultratech etc.

## Celebration of the 175<sup>th</sup> Foundation Day of the Geological Survey of India



The **175<sup>th</sup> Foundation Day** of the Geological Survey of India was celebrated on 4<sup>th</sup> Mar. 2025 in the state GSI office of Raipur, Chhattisgarh. The event featured **Mr. Ashokaditya Dhurandhar**, the *Global Head, Exploration and Mining, Bathwal Corporation, Deputy Director General, GSI* as the



Chief Guest, along with **Mr. Amit Dharwadkar**, Director, Geological Survey of India, and **Dr. Neeraj Vishwakarma**, Associate Professor, DAG, NIT Raipur and other associated dignitaries. A Geological **Quiz Competition** and **3D Model Presentation** was held. NIT Raipur's team secured the **First position** in the **Quiz competition** and the **Third position** in **3D model competition**.

## Uttkarshan '25 by METSO



NIT Raipur's Metallurgical Society (METSO) organized, Uttkarshan'25 from 1<sup>st</sup> Mar. to 2<sup>nd</sup> Mar. 2025. It featured a **Quiz Competition** with rounds covering metallurgy, general science, and current affairs. A **Coding Competition – Cracking the Code** saw a thrilling battle among the top coders. **Debate – Words That Ignite Minds** was a fiery battleground of logic, and technical expertise. **Etching & Clay Crafting – Art Meets Metallurgy** captured the artistic side of metallurgy students. **T-Shirt Painting – Wear Your Imagination** turned plain fabric into creative masterpieces. Metallurgical symbols, abstract industry-themed artwork, and witty engineering phrases adorned the T-shirts.

## GATE Mock Test by METSO

METSO-The Metallurgical Society, NIT Raipur in collaboration with **FindMyTest** successfully organized a GATE Mock Test Event on 11<sup>th</sup> Jan. 2025 in the Central Computer Lab of the institute. A total of approximately 100 applicants participated in the mock test, including students from NIT Raipur as well as other reputed institutions. The exam was conducted in a simulated online mode. A felicitation ceremony was held to recognize the top performers. An insightful speaker session on the GATE examination, where key strategies, exam patterns, and preparation techniques were discussed, was organized.

## NITRRFIE Activities

### NITRRFIE celebrated National Start-up Day

NIT Raipur, through its Incubation Centre, NITRRFIE successfully hosted the **National Start-up Day**, a flagship startup outreach event on 16<sup>th</sup> Jan. 2025. The event profoundly

promoted creativity, entrepreneurship and early-stage investments within India's vibrant startup ecosystem, receiving an enthusiastic response from founders, investors and students. The speakers for the session comprised of **Mr. Akash Agrawal**, Co-Founder, ZOFF Foods, **Ms. Shubhika Jain**, Founder, RAS Luxury Skincare and **Mr. Priyank Patel**, Founder, Nukkad Tea Cafe, who shared valuable insights into the vast domain of entrepreneurship.



The program began with a prudent address by **Mr. Samir Bajpai**, Head, CDC, emphasized on India's potential to become a developed nation (Viksit Bharat) through flourishing start-ups as they give rise to increasing job opportunities. **Dr. M. K. Verma**, Professor, CE, set the tone for the event by urging the youth for active participation in entrepreneurial ideas by focusing on societal needs and developing innovative products catering to market demands. **Mr. Agrawal** spoke about learning from one's surroundings, leveraging unique ideas and highlighted on the key role of perseverance in achieving success. **Ms. Jain** stated her motto of redefining beauty through sustainability while sharing her journey of beginning from a small-scale business by participating in local exhibitions, overcoming rejections and maintaining clarity in roles within a team. **Mr. Patel** shared his impactful journey of integrating social reform with business. His cafe provides dignified employment opportunities to marginalized communities including specially-abled individuals, human trafficking survivors and transgenders.

This was followed by a reflective panel discussion moderated by **Dr. Anuj Kumar Shukla**, Faculty In-Charge, NITRRFIE in which the notable speakers explored the growth and impact of start-ups on the Indian economy. **Mr. Patel** emphasized on the pivotal role of sustainable growth and continuous impact for an inclusive entrepreneurship. **Mr. Agrawal** shared his transition from a family business of steel to spices as it was driven by his passion for food and its societal impact. **Ms. Jain** stressed that execution outweighs ideas, urging participants to build something they can take pride in.

The session ended with a Q&A and feedback session, followed by the felicitation ceremony of the distinguished speakers as a token of appreciation.



## Centre of Space and Interplanetary Exploration (COSINE)

### NIT Raipur organised a session to boost Space-Tech Research capabilities



NIT Raipur's COSINE organized a faculty interaction session to explore how the institute can contribute to national space missions and promote the space tech ecosystem in Chhattisgarh on 25<sup>th</sup> Feb. 2025. The keynote speaker of this session was **Dr. S. Somanath**, *Vikram Sarabhai Distinguished Professor (ISRO) and Former Chairman ISRO & Space Commission, Govt. of India*. He discussed space science and its various aspects in detail with the faculty members present. The session was attended by **Dr. Suresh Haware**, *Chairman, BoG, NIT Raipur*, **Dr. Rajeev Prakash**, *Director, IIT Bhilai*, **Dr. S. Sanyal**, *Professor, ME*, **Dr. G. P. S. C. Mishra**, *Dean (R&C)*, **Dr. Saurabh Gupta**, *Faculty (I/C), COSINE*, **Dr. Ramya Selvaraj**, *Assistant Professor, EE*, **Dr. R. Marieswaran**, *Assistant Professor, BME*, **Dr. Kapil Soni**, *Assistant Professor, IT* and other faculty members.

**Dr. Mishra** highlighted NIT Raipur's research strengths, focusing on space research and projects under COSINE. He discussed future goals, emphasizing the institute's potential contribution to the national space sector. **Dr. Somnath** interacted with faculty, suggesting innovative research problems and ensuring support for collaboration with ISRO experts. He proposed establishing a *Tinkering Lab* for small satellite projects and emphasized *Geospatial Information Systems (GIS)* applications, particularly relevant to the Chhattisgarh region. The session stressed Bioastronautics research for long-duration space missions and urged NIT Raipur's involvement in ISRO's *Gaganyaan* program. The session marked a significant step toward strengthening space-tech research at NIT Raipur and enhancing collaboration with ISRO, setting the foundation for future advancements in space exploration and technology.

### IIRS Hosted One-Day Online Workshop on Martian Surface

NIT Raipur's COSINE in collaboration with the **Indian Institute of Remote Sensing (IIRS)**, under the **Indian Space Research Organisation (ISRO)**, hosted a one-day online workshop on **Martian Surface, Analogues, and Atmosphere**

on 12<sup>th</sup> Mar. 2025. The event was organized under the guidance of **Dr. Manu Mehta**, *Workshop Coordinator* and *Scientist/Engineer SF PRSD/GTOPG*, **Dr. Mamta Chauhan**, *Workshop Co-coordinator* and *Scientist/Engineer SE GSD/G&DMG*, and **Dr. Poonam S. Tiwari**, *Programme Coordinator, IIRS outreach Programme*, with support from **Mr. Janardhan Vishwakarma**, *IIRS DLP Team* and **Mr. Ashok Ghildiyal**, *IIRS DLP Team*.

This workshop brought together experts and enthusiasts from various fields of planetary science to discuss Martian geology, analogues and the Martian atmosphere, while highlighting India's contributions to the Mars research. Participants received login credentials for the ISRO Learning Management System (LMS), and a Participation Certificate.

### NIT Raipur organised Expert lectures on Sensors for Space Applications



NIT Raipur, in collaboration with COSINE, organized the inaugural session of a lecture series on **Sensors for Space Applications** on 20<sup>th</sup> Jan. 2025. The event featured **Dr. Nilesh J. Vasa**, *Professor, Department of Engineering Design, IIT Madras*, as the keynote speaker.

**Dr. Vasa** discussed Laser-Induced Breakdown Spectroscopy (LIBS) applications in space exploration, including its role in Chandrayaan-3's Pragyan rover. He covered laser-material interactions, RF-based sensors, MEMS-based biosensors, and optical fibre sensors, while encouraging students to pursue careers in space research. The event concluded with a sapling presentation to **Dr. Vasa**. The lecture highlighted the importance of sensor research for space exploration, encouraging future initiatives.

### NIT Raipur Hosted EDUSAT Course on Geodata Processing

COSINE, NIT Raipur, in collaboration with the **Indian Institute of Remote Sensing (IIRS)**, hosted an **online EDUSAT course on Geodata Processing Using Python and Machine Learning**. The program was organized under the guidance of **Dr. N.V. Ramana Rao** *Director, NIT Raipur*, **Prof. S. Sanyal** *Chairman, IICC*, **Dr. Saurabh Gupta**,



*Faculty (I/C), COSINE* and **Dr. Himanshu Govil** *Coordinator, COSINE*.

Participants were trained in **Python programming** for handling raster/vector data, along with machine learning algorithms for pattern recognition and predictive modelling. The course covered applications in **Environmental Monitoring, Disaster Response, Land-use Classification, and Natural Resource management**.

This initiative reinforced NIT Raipur's role in advancing geospatial technologies, fostering technical skills, and promoting interdisciplinary research.

### Speaker Session on Dynamically Isotropic Gough-Stewart Platform for Micro-Vibration Isolation in Spacecrafts

NIT Raipur's COSINE hosted an online speaker session featuring **Dr. Yogesh Pratap Singh**, *Ph.D. scholar, IISc Bangalore* and an alumnus of NIT Raipur on *Dynamically Isotropic Gough-Stewart Platform for Micro-Vibration Isolation in Spacecrafts* on 26<sup>th</sup> Dec. 2024. The event was jointly organized by the **I-Cell** and the **Centre of Space and Interplanetary Exploration (COSINE)**. The session provided an inspiring and informative exploration of cutting-edge research in aerospace engineering.

**Dr. Singh** shared his expertise on the *Dynamically Isotropic Gough-Stewart Platform* and introduced a groundbreaking innovation for micro-vibration isolation in spacecraft, with potential applications in medicine. He shared his academic journey from NIT Raipur to IISc Bangalore, emphasizing

academic excellence, internships, and strategic planning. The event discussed IISc's updated admission policies, making it more accessible, and **Dr. Saurabh Gupta**, *Faculty (I/C), COSINE* highlighted the importance of focus, interdisciplinary learning, and strong academic profiles. The session inspired students to embrace research and innovation while aiming for excellence.

### Student Interaction on Career Pathways in Space Technology by COSINE



**COSINE and Innovation Cell (I-Cell), NIT Raipur**, organized a session on **Career Pathways in Space Technology** on 7<sup>th</sup> Mar. 2025. **Dr. Yogesh Pratap Singh**, *PMRF Fellow, IISc Bangalore* and *NIT Raipur alumnus*, discussed **CubeSat design, Satellite Communication**, and collaborations with **Spacekidz India** on student-led missions. He highlighted research advancements at IISc and interdisciplinary opportunities in aerospace, material science, and robotics.

The session outlined career pathways for B.Tech students, including internships at **ISRO, DRDO, and BARC**, and higher studies in global institutions. Dr. Singh emphasized skill development in **Micro-vibration Isolation** (Stewart platforms) and medical applications of space tech, referencing his work on tibial fracture correction. A **Q&A segment** addressed queries on technical workshops and sector-specific advancements.

## Industry Institute Collaborations (IICC), NIT Raipur

### Expert Lecture on Steel Manufacturing Process and Technological Advancements



**Department of Mechanical Engineering (ME), NIT Raipur** organized an Industrial Expert Lecture under the **Industry Institute Collaboration Cell (IICC)** on 29<sup>th</sup> Jan. 2025, by **Mr. Himanshu Verma**, *Manager, Bhilai Steel Plant*, on the **Steel Manufacturing Process and Recent Technological Advancements**. The students learned more about how the industry works and what innovative techniques are being used

and the program showed institute's dedication to improving industry academia collaboration and providing students with knowledge that extends beyond traditional textbooks. The session was an informative and useful experience for all participants.

### Expert Talk on Digital Interventions into Humanities

**Department of Humanities and Social Sciences (DHSS), NIT Raipur**, organized an **Expert Talk on Digital Interventions into Humanities: Possibilities and Challenges** on 12<sup>th</sup> Feb 2025. The keynote speaker for the session was **Dr. Ujjwal Jana**, Professor, *Department of English, Faculty of Arts, University of Delhi, North Campus*.



The talk explored the evolution of digital culture and its influence on humanities, focusing on digital methods, tools, and their intersections with literary and cultural studies. It examined the institutionalization of **Digital Humanities (DH)** in Indian universities, key publicly funded DH projects, and the establishment of **Digital Humanities Alliance for Research and Teaching Innovations (DHARTI)**.



Challenges such as research infrastructure, the digital divide, financial constraints, and sustainability were also discussed, along with future prospects for DH in the Indian context. Faculty, researchers, and students attended the session, engaging in insightful discussions on the future of digital humanities in India.

## Industry Expert Lecture for MME students

Department of Metallurgical and Materials Engineering (MME), NIT Raipur organized an expert lecture by **Dr. Pampa Ghosh**, *Founder & Director, Innovative Materials Solutions (INMAS)* on 13<sup>th</sup> Feb. 2025. The program co-ordinator was **Dr. Sudip Kumar Sinha**, *Assistant Professor, MME*. **Dr. Ghosh** shared her insights in the field of structure-property correlation in automotive steel, and advanced non-ferrous materials. She talked about the career opportunities in R & D division, TATA Steel for fresh graduate students.

## Industry Expert Lecture on AI for AI



NIT Raipur organized an **Industry Expert Lecture** under the **Viksit Bharat Abhiyan** initiative on 17<sup>th</sup> Jan. 2025. The session featured **Dr. Mani Madhukar**, *Program Lead, IBM Innovation Center for Education (Expert Labs-Data & AI, IBM India Pvt. Ltd.)*, who discussed advancements and applications of **Artificial Intelligence (AI)** in driving innovation and industry solutions. The lecture emphasized

IBM's cutting-edge AI tools and strategies, aligning with global technological trends and India's developmental goals.

## MOUs

### NIT Raipur and Washington State University (WSU)

NIT Raipur and Washington State University, USA (WSU) have signed a **Memorandum of Understanding (MoU)** on 22<sup>nd</sup> Jan. 2025. The MoU aims to foster collaboration in student exchange programs for Undergraduate, Master's, and Ph.D. students, faculty exchange, and joint research projects. Both institutions will also coordinate efforts to commercialize technologies developed at their universities or partner institutions in mutually beneficial ways. It will remain in effect for three years from the date of signing. The partnership reflected a shared commitment to academic excellence, and research collaboration.

### NIT Raipur and South Eastern Coalfields Limited (SECL)



NIT Raipur and SECL have signed a **Memorandum of Understanding (MoU)** on 22<sup>nd</sup> Jan. 2025, in the presence of **Dr. N. V. Ramana Rao**, *Director, NIT Raipur*, **Shri Alok Kumar**, *General Manager (Civil/CSR), SECL* and key dignitaries from both institutions. The MoU formalizes the construction of a 500-bedded Girls Hostel on campus, funded by SECL under its **Corporate Social Responsibility (CSR)** initiative with a sanctioned amount of **₹48.19 Crores**. The hostel will be a **G+3** RCC framed structure with provisions for future expansion up to **G+6** floors. It will feature high-quality construction, modern amenities, and state-of-the-art utilities, ensuring safety and comfort for residents. The project, expected to be completed in **36 months**, will be managed by NIT Raipur post-construction.

The Foundation Stone was remotely laid on 21<sup>st</sup> Jan. 2025 by **Shri Jagdeep Dhankhar**, *Hon'ble Vice President of India*, in the presence of **Shri Ramen Deka**, *Hon'ble Governor, Chhattisgarh*, **Shri Vishnu Deo Sai**, *Hon'ble Chief Minister, Chhattisgarh*, and other dignitaries. Additionally, an MoU was signed between NIT Raipur and **CPWD** on 10<sup>th</sup> Jan. 2025 for project management services on campus. This initiative



highlights the commitment of SECL and NIT Raipur to enhancing infrastructure and supporting female students in higher education.

## NIT Raipur and DPRD, Government of Chhattisgarh



NIT Raipur and Department of Panchayat and Rural Development (DPRD), Government of Chhattisgarh, signed a **Memorandum of Understanding (MoU)** to foster research and development in various projects running in the rural areas of the State, through several flagship programmes of the Government of Chhattisgarh and Government of India on 10<sup>th</sup> Jan. 2025. The MoU was signed by **Dr. N.V. Ramana Rao**, Director, NIT Raipur and **Dr. Seema Mishra**, Joint Commissioner, DPRD, Chhattisgarh in the esteemed presence of **Shri Shivraj Sigh Chauhan**, Hon'ble Minister of Rural Development and Agriculture & Farmers Welfare, **Shri Vishnu Deo Sai**, Hon'ble Chief Minister and **Shri Vijay Sharma**, Hon'ble Minister, DPRD at Swami Aatmanand School campus, Nagpura in Durg. **Dr. P. Y. Dhekne**, Registrar, NIT Raipur, **Dr. S Sanyal**, IICC Chairman and **Dr. Manwendra K. Tripathi**, Associate Dean (R&C), **Dr. Himanshu Poptani**, Assistant Professor, DAP and **Dr. Malathy R Prasana**, Assistant Professor, (CSVТУ) were present from NIT Raipur. **Smt. Niharika Barik Singh**, Principal Secretary, DPRD, **Sri Rajat Bansal**, Director, PMAY-(G), and **Shri Arvind Rahi**, (OSD-T) were present from the DPRD.

The DPRD and NIT Raipur are already initiated a project titled the house model for particularly vulnerable tribal group and this MoU will further pave the way for knowledge exchange and resource sharing, joint research and development, capacity building and training, exploration of future technology for the sustainable development of rural communities. The agreement outlines several key areas of collaboration, including creating a common platform for interaction between DPRD and NIT Raipur, furthering government-academic relationship, proposing solutions to increase the efficiency of traditional systems of execution and monitoring of schemes such as *Pradhan Mantri Awas Yojna – Gramin (PMAY-G)*, *Mahatma Gandhi National Rural Employment Guarantee Scheme*

(MGNREGS) and other schemes. **Sri Vinay Kumar Gupta**, Superintending Engineer, DPRD and **Dr. Vikas Kumar Vidyarthi**, Assistant Professor, CE will coordinate all collaborative activities between DPRD and NIT Raipur.

## NIT Raipur and Indira Gandhi Krishi Vishwavidyalaya Raipur (IGKV)



NIT Raipur and IGKV Raipur have signed a **Memorandum of Understanding (MoU)** on 27<sup>th</sup> Jan. 2025, in the presence of **Dr. N.V. Ramana Rao**, Director, NIT Raipur, **Dr. G. P. S. C. Mishra**, Dean (R&C), NIT Raipur, **Dr. Srinivasu G.S.**, Assistant Professor, ME, **Dr. Girish Chandel**, Vice-Chancellor, IGKV Raipur, **Dr. V.K. Pandey**, Dean, SVCAET, and **Dr. A.K. Dave**, Dean, College of Food Technology, along with other deans, senior faculty, and department heads.

The collaboration aimed at driving innovation and solving real-world challenges and focused on joint research in areas such as sustainable farming technologies, agricultural machinery design, and resource-efficient practices. It also included initiatives like faculty exchanges, student internships, and other collaborative projects. This partnership was expected to benefit students, researchers, and the community by developing advanced solutions to pressing agricultural challenges. It marked a milestone in interdisciplinary collaboration, bringing together two premier institutions for the betterment of society.

## NIT Raipur and State Forensics Science Laboratory (SFSL), Raipur



NIT Raipur and SFSL Raipur, signed a **Memorandum of Understanding (MoU)** to foster research and development in the fields of cyber security and forensics on 17<sup>th</sup> Mar. 2025.



The MoU was signed in presence of **Dr. N.V. Ramana Rao**, *Director, NIT Raipur*, **Shri Sushil Chandra Dwivedi**, *Director, State Forensics Science Laboratory, Raipur (C.G.)*, and key dignitaries from both institutions.

The agreement between NIT Raipur and SFSL Raipur focuses on collaboration in forensic science through research, academic programs, workshops, and conferences. It aims to promote student training, quality research, and access to laboratory facilities. Key areas include Digital Forensics, DNA Analysis, advanced scanning, brain mapping, and technology incubation like hackathons and startups. **Dr. Nitesh K Bharadwaj**, *Assistant Professor, CSE, NIT Raipur* and **Dr. Vikrant Singh Thakur**, *Audio Video Forensic Division, SFSL* will coordinate all collaborative activities between SFSL Raipur and NIT Raipur.

## NIT Raipur And Zoom-My-Life, California, USA in AI-Driven Healthcare Innovations



NIT Raipur and Zoom-My-Life, California, USA, have signed a **Memorandum of Understanding (MoU)** on 30<sup>th</sup> Jan. 2025, in the presence of **Dr. N. V. Ramana Rao**, *Director, NIT Raipur*, and **Mr. Srinivas Sreepada**, *Founder & CEO, Zoom-My-Life, California, USA*, **Dr. Shrish Verma**, *Dean (Academics)*, **Dr. Samir Bajpai**, *Head, CDC*, **Dr. D. Sanyal**, *Dean (FW)*, **Dr. G.P.S.C. Mishra**, *Dean (R&C)*, **Dr. Arindam Bit**, *HoD, BME*, and faculty members.

The MoU outlined a collaborative framework for joint research in AI-driven diagnostics and treatment strategies. Both organizations agreed to work together to identify and pursue research initiatives, develop innovative and cost-effective treatment solutions, advance diagnostic accuracy and provisions for **consultancy services**. Additionally, the MoU established guidelines for intellectual **property rights**. The collaboration remained open to further cooperative ventures in areas of mutual interest. This strategic alliance was expected to drive innovation, promote academic exchange, and address critical challenges in the biomedical domain through collaborative research and practical applications. Both NIT Raipur and Zoom-My-Life expressed confidence in the potential impact of this partnership, which took effect immediately following the MoU signing. **Dr. Bikesh Kumar Singh**, *Associate Professor, BME, NIT Raipur*, was designated as the coordinator for all collaborative activities with Zoom-My-Life.

## Academic Activities

### 2<sup>nd</sup> International Conference on Emerging Technologies and Applications in Electrical Engineering



Department of Electrical Engineering (EE), NIT Raipur hosted the inauguration of a two-day **2<sup>nd</sup> International Conference on Emerging Technologies and Applications in Electrical Engineering (ICETAEE 2024)** from 18<sup>th</sup> to 19<sup>th</sup> Dec. 2024. It focused on **AI-Driven Solutions and Emerging Power Technologies for a Sustainable Future**. The inaugural session was presided over by **Shri. Bhim Singh Kanwar**, *Managing Director of Chhattisgarh State Power Distribution Company Limited*. **Dr. N. V. Ramana Rao**,

*Director, NIT Raipur*, and **Dr. Shrish Verma**, *Dean (Academics)*, were also present. The session was chaired by **Dr. Anamika Yadav**, *HoD, EE* while **Dr. G.P. S. C.**, *Dean (R&C)*, served as the Patron. The organizing secretaries for the event were **Dr. D. Suresh**, *Assistant Professor, EE*, **Dr. V. Hari Priya**, *Assistant Professor, EE*, **Dr. Rajan Kumar**, *Assistant Professor, ME*, and **Dr. Chilaka Ranga**, *Assistant Professor, EE*.

**Dr. Yadav** delivered the welcome speech, highlighting the Electrical Department's achievements. **Dr. Verma** encouraged building partnerships and seeking help when available. **Dr. Rao** highlighted critical issues in energy management, including smart grids. He discussed the role of AI in addressing energy storage challenges through AI-powered batteries and their integration into electric vehicles. **Shri Bhim Singh Kanwar** provided insights into the operations of CSPDCL, the largest power utility in Chhattisgarh after BSP.

He underscored AI's benefits, including minimized power loss, and theft detection, while addressing its challenges.

The valedictory session was held on 19<sup>th</sup> Dec. 2024 was graced by **Commodore Shri. Ajay Singh Bisen (Indian Navy)**, **Dr. Debashish Sanyal, Dean (FW)**, as the Chief Guest. **Dr. Shubhrta Gupta, Professor, EE**, served as the Guest of Honor, alongside **Dr. Anamika Yadav, HoD, EE**. **Dr. Rajan Sonkar** highlighted how the success of the 2023 conference laid the foundation for this year's success. **Dr. Sanyal** suggested collaboration across branches and knowledge of AI is crucial. **Commodore Shri. Ajay Singh Bisen** with 34 years of service in the Indian Navy, credited his electrical engineering education for aiding his Navy career. The event concluded by the delivery of vote of thanks by **Dr. Ranga**.

### NIT Raipur inaugurated 3<sup>rd</sup> International Conference on Ambient Intelligence in Healthcare (ICAIHC- 2025)



Department of Computer Applications (DCA), NIT Raipur inaugurated 3<sup>rd</sup> International Conference on Ambient Intelligence in Healthcare (ICAIHC-2025) sponsored by IEEE on 10<sup>th</sup> Jan. 2025. The inaugural ceremony of this 2-day conference was graced by the presence of *Special Guest Shri. Pradeep Gupta, IPS, Additional Director, General Police, CG* accompanied by *Chief Patron Dr. N. V. Ramana Rao, Director, NIT Raipur*. **Dr. Shrish Verma, Dean (Academics), NIT Raipur** and **Dr. G. P. Mishra, Dean (R&C), NIT Raipur** served as Patrons for the ceremony. The event was organised under the guidance of Conference Chairperson **Dr. Priyanka Tripathi, HoD, DCA** and Organising Chairs **Dr. Harendra Bikrol, Associate Professor, DCA**, **Dr. Tripti Swarnakar, Professor, DCA** and **Dr. Shyam Sundar, Associate Professor, DCA**.

Following this, **Dr. Tripathi** inaugurated the conference with her opening address, extending a warm welcome to all the guests, delegates, and participants from across India. **Dr. Rao** commended the Department of Computer Applications for organizing the conference. **Dr. Swarnakar**, in her address, welcomed the keynote speakers and elaborated on the theme of the conference. **Dr. Verma** highlighted the broad scope of the conference, emphasizing the importance of ergonomics

and ambient intelligence in simplifying lives through unobtrusive technology. *Special guest Shri. Gupta* then took the stage and expressed his pride in being part of such an insightful conference. **Dr. Bikrol**, the organizing secretary, delivered the vote of thanks. The first day of the conference featured various panel discussions and speaker sessions, with participants and experts from institutions across the country. During the conference in the special session of Women in Engineering, **Dr. Sanjay Shukla, Registrar Govt. Ayurvedic College Raipur**, **Dr. Surbhi Dubey, Assistant Professor, Pt. J. L. N. M Medical College Raipur**, **Dr. Rajni Dewangan, Gynaecologist, Agarwal Hospital Raipur** and **Dr. Nivedita Chaubey, Paediatrician & Visiting Consultant, Govt. Ayurvedic College Raipur**, were present. **Dr. Bikrol**, addressing the gathering on behalf of the department, encouraged participants to explore and utilize the resources of NIT Raipur.

**Dr. Jyoti Pillai, Chairman, IEEE MP Chapter**, acknowledged NIT Raipur's contributions and presented a memento as a gesture of appreciation. **Dr. Mithilesh Atulkar, Professor, DCA** congratulated all the organizers, coordinators, and researchers for their efforts in organizing the event successfully. **Dr. Narendra Bodhey, AIIMS Raipur**, **Dr. Rajendra Prasath, IIIT Sri City**, **Dr. Arpan Chaturmohta, CBCC Raipur**. **Dr. Kamal Raj Pardasani, MANIT Bhopal**, **Dr. Anil Kumar Sao, IIT Bhilai** were present. **Dr. Dibakar Saha, Assistant Professor, DCA** presented a comprehensive report on the two-day event. The event featured five keynote talks, including two by international speakers, covering areas such as IoT, Computational Biology, and Machine Learning applications in engineering. In her closing remarks, **Dr. Swarnakar** expressed her gratitude to **Dr. Rao** for his unwavering support and guidance throughout the event. The session concluded with a vote of thanks.

### 4<sup>th</sup> IEEE International Conference on Power, Control, and Computing Technologies (ICPC<sup>2</sup>T 2025)



Department of Electrical Engineering (EE), NIT Raipur organized the 4<sup>th</sup> IEEE International Conference on Power, Control, and Computing Technologies (ICPC<sup>2</sup>T 2025) from 20<sup>th</sup> Jan. to 22<sup>nd</sup> Jan. 2025. The inaugural ceremony featured **Shri Hemant Verma, Chairperson**,



*Chhattisgarh State Electricity Regulatory Commission (CSERC), as Chief Guest, alongside Dr. N.P. Padhy, Director, MNIT Jaipur, and Dr. N.V. Ramana Rao, Director, NIT Raipur. The valedictory session on 22<sup>nd</sup> Jan. 2025 was graced by Dr. Rao and Dr. Debashish Sanyal, Dean (FW), NIT Raipur. Keynote speakers included Dr. Akshay Kumar Rathore, Professor, Singapore Institute of Technology, Dr. Nilesh J. Vasa, Professor, IIT Madras, Dr. Vinod Khadkikar, Professor, Khalifa University, UAE, and Dr. Biplab Sikdar, Professor, National University of Singapore.*

The conference, chaired by Dr. Anamika Yadav, HoD, Department of Electrical Engineering, received 564 submissions from 15 countries, with 267 accepted papers and 182 participants. It featured 18 technical sessions, six keynote addresses, and collaborations with IEEE Madhya Pradesh Section, IEEE IAS, IEEE PELS, and the IEEE Student Branch of NIT Raipur. Dr. Padhy highlighted India's energy challenges, including unmet peak demand, while Shri Verma stressed interdisciplinary collaboration. During the valedictory ceremony, Dr. Sanyal underscored the role of research in EVs and renewable energy, and Dr. Yadav announced a potential MoU with a Nepalese participant.

The event concluded with Best Paper Awards for Dr. Venupriya, Dr. Aramshetti Hemachandan, Ms. Rashmi Barade, and others. Dr. Ramya Selvaraj, Assistant Professor, EE, delivered the vote of thanks.

## National Conference on NEP 2020 organised by NIT Raipur



Department of Humanities and Social Sciences (DHSS), NIT Raipur, organized National Conference on NEP 2020: Challenges, Prospects, and Future Directions for Divyangjan on 10<sup>th</sup> Feb. 2025. The event was attended by Dr. A.B. Soni, Director (I/C), NIT Raipur, Dr. Sandip Sarkar, Assistant Professor, DHSS & Coordinator of the event, Dr. Ujjwal Jana, Department of English, Delhi University, Dr. Samir Bajpai, HoD, DHSS, along with faculty and participants.

Dr. Sarkar outlined the program's objectives, emphasizing collaborative efforts for actionable outcomes. Dr. Bajpai highlighted the focus on Divyangjan under NEP 2020, appreciating efforts in policy direction and recommendations for inclusivity. Dr. Soni discussed NEP 2020's vision of equitable education, focusing on teacher training, collaboration between Centre and States, and the 5+3+3+4 structure. She also addressed the Persons with Disabilities Act (2016) and NEP 2025's goals for an inclusive learning environment. The session concluded with Dr. Nitin Jain presenting a memento to Dr. Jana, followed by the national anthem.

## Workshop on Communication and Project Management by CDC

Career and Development Cell (CDC), NIT Raipur organized an Expert Workshop on Strategic Communication and Project Management for Corporate Efficiency on 30<sup>th</sup> Dec. 2024. The event was graced by an eminent speaker, Dr. Krish K. Dubey, President, Dubey & Associates and a US Fulbright Scholar, and other Hon'ble guests like Dr. Shrish Verma, Dean (Academics) and Dr. Samir Bajpai, Head, CDC along with Mr. Tushar Dubey and Mr. Aakash Dubey from Dubey & Associates. The event was attended by faculty members, scholars and students of the institute in high spirits.

Dr. Dubey referenced Warren Buffett's advice on communication skills being more valuable than a degree. The speakers delved into techniques applicable across hierarchical levels. They covered inventory control using ABC analysis, forecasting through regression, and error mitigation.

## Event on Water Quality and NABL Accreditation of Water Testing Laboratories



Department of Civil Engineering (CE), NIT Raipur and UNICEF Raipur are jointly organizing a two-day state-level event on Water Quality and NABL Accreditation of Water Testing Laboratories on 23<sup>rd</sup> Dec. 2024 held at the Thakur Pyarelal State Institute of Panchayat & Rural Development, Nimora, this event aims to enhance water quality standards under the Jal Jeevan Mission by strengthening laboratory capabilities and aligning practices with ISO/IEC 17025:2017 standards. The event was inaugurated by Mr. Mohammad

**Qaiser Abdul Haq**, IAS, Secretary, Public Health Engineering Department (PHED), Government of Chhattisgarh, as Chief Guest, and **Mr. Sarveshwar Narendra Bhure**, IAS, Mission Director, Jal Jeevan Mission, as Guest of Honor. Both highlighted the importance of reliable water quality monitoring systems in ensuring safe drinking water for rural households.

The event includes expert-led sessions on the NABL accreditation process, laboratory setup and calibration, microbiological water testing techniques, and quality assurance. Esteemed speakers include **Mr. Mohd. Ishfaq**, IAS (Retired), Adviser, SPM-NIWAS, **Ms. Sugandha Ganguly**, Water Quality Expert, SPM-NIWAS, **Dr. Bhavna Trivedi**, Water Quality Expert, SPM-NIWAS and **Ms. Sweta Patnaik**, WASH and Climate Specialist, UNICEF Chhattisgarh. These sessions are designed to equip participants with the necessary skills and knowledge to modernize laboratory operations and achieve NABL accreditation. The event is being organized under the leadership of **Ms. Patnaik**, **Dr. Govardhan Bhat**, Assistant Professor, CE and **Dr. Chandan Kumar Singh**, Assistant Professor, CE. Their collaborative efforts reflect the shared commitment of NIT Raipur and UNICEF to advance water quality testing infrastructure and capacity in Chhattisgarh.

The event concluded on 24<sup>th</sup> Dec. 2024 with a valedictory session and certificate distribution to participants. This initiative marks a significant step toward strengthening water testing infrastructure under the Jal Jeevan Mission and enhancing public health outcomes across the state.

## Expert Lecture on the Scientific Approach to Research in Humanities

Department of Humanities and Social Sciences (DHSS), NIT Raipur organized an expert lecture on **Scientific Approach to Research in Humanities** by the esteemed **Dr. Pradeep Kumar Das**, Jawaharlal Nehru University (JNU), New Delhi which delved into the theoretical frameworks that bridge the realms of science and humanities, offering an enriching academic experience. **Dr. Das** addressed a pivotal question whether *research in humanities be considered scientific*. Through an engaging discussion, he explored the nuanced intersection of language, culture, literature, and social sciences, shedding light on how grounded theoretical frameworks could provide a scientific foundation for research in these domains. He examined the contributions of linguistic theorists like **Noam Chomsky** and **Charles Hockett** and further elucidated the relationship between mathematics and

language, and mathematics and magic. His discussion on the *poetics and politics of typology in linguistics* helped audience to understand how languages are structured and analysed.

One of the highlights of the lecture was **Dr. Das's** detailed analysis of syntactical structures like *SUBJECT-VERB-OBJECT* framework in language grammar. The lecture concluded with an engaging Q&A session. The department expressed gratitude to **Dr. Das** for his remarkable contribution and reaffirmed its commitment to organizing such academic events that inspire and enlighten the scholarly community.

## Lecture session on Application of Petrology in Critical Minerals



Department of Applied Geology (DAG), NIT Raipur organized an expert lecture session on **Application of Petrology in Critical Minerals** on 14<sup>th</sup> Jan. 2025. The keynote speaker for the event was **Prof. J. Gregory Shellnut**, Distinguished Professor in the Department of Earth Science, National Normal Taiwan University, Taipei. The lecture was focused on **the scope and development of Petrology and its application in Mineral Exploration, study of critical minerals and use of petrology in the formation of minerals deposits**. Brief description of critical minerals deposits related to the petrogenesis of different rocks from different parts of the globe was given in the lecture. **Prof. Shellnut** also discussed about the scope and job opportunity in geosciences field particularly in Taiwan. He suggested the students to work hard and remain dedicated towards the goal. The lecture was attended by the UG, PG students, Research Scholars and faculty members of Applied Geology Department.

## Technical Session on Safety and Hazards in Process Industries

Department of Chemical Engineering (DCE), NIT Raipur conducted a technical session on **Safety and Hazards in Process Industries** on 4<sup>th</sup> Feb. 2025 by **Mr. Aabid Hussain**, Scientist-D & Joint Director, Bureau of Indian Standards (BIS), Patna Branch Laboratory, aimed to foster discussion and practical knowledge on different aspects of safety and hazards in various process industries. The event was



attended by **Dr. Amit Keshav**, *HoD, DCE*, **Dr. A.B. Soni**, *Professor, DCE*, **B.Tech, M.Tech**, and **PhD research scholars**, along with faculty members of the DCE Department. The session was coordinated by **Dr. J. Anand Kumar**, *Associate Dean (R&C) & BIS Nodal Officer, NIT Raipur*.



**Dr. Soni** welcomed **Mr. Hussain** with a sapling. In his presentation, **Mr. Hussain** emphasized the importance of standards in industries and highlighted need for updated standards and their adoption in process industries focusing on safety and hazard management. The session concluded with an engaging Q&A session. The department expressed gratitude to **Mr. Hussain** and reaffirmed its commitment to organizing such technical sessions related to standards that inspire and enlighten the scholarly community. Finally, **Dr. Keshav** honoured the guest with a memento. **Dr. Kumar** thanked the faculty members and students for their active participation and **Mr. Hussain** for delivering the expert lecture.

## Expert Lecture on Space Technology: Satellite Flight Dynamics Application of Mathematics



**Dr. Vineet K. Srivastava**, *SE, Flight Dynamics Operations, ISRO, Bengaluru* had delivered a compelling talk on **Space Technology: Satellite Flight Dynamics Application of Mathematics** on 8<sup>th</sup> Feb. 2025. highlighting the pivotal role of mathematical principles in Space Technology. With his extensive experience on Flight Dynamics Operations at ISRO, **Dr. Srivastava** provided valuable insights on its Mathematical Applications, Mission Design and Simulation and Challenges.

## Expert Lecture on Metal-Based Theranostic Agents: Anticancer Localization



**Department of Chemistry (DoC)**, **NIT Raipur**, organized an expert lecture by **Dr. Rupam Dinda**, *Professor, NIT Rourkela* on **Recent Advances in Metal-Based Theranostic Agents: Anticancer and Cellular Localization** on 5<sup>th</sup> Feb. 2025. He is a *Fellow of the Royal Society Chemistry (FRSC)* and a *Member, CRSI Executive Council*.

**Dr. Dinda** delivered a lecture which was beneficial for P.G. and PhD students. The details discussed included metal-based drugs that are luminescent and crucial to cancer diagnosis and therapeutics. The research outcomes were published and accepted in journals with high international repute.

## Capacity Building Workshop on Outcome-Based Education



**NIT Raipur's Dean (FW)** in collaboration with **National Institute of Technical Teachers' Training and Research (NITTTR)**, **Bhopal**, organized a **Capacity Building Programme on Outcome-Based Education** on 24<sup>th</sup> Jan 2025. The three-day workshop from 22<sup>nd</sup> Jan 2025 to 24<sup>th</sup> Jan 2025 aimed to strengthen educators' understanding of outcome-based teaching, learning, and evaluation practices. **Dr. Shrish Verma**, *Dean Academics, NIT Raipur* served as Chief Guest for the event, **Dr. Debashis Sanyal**, *Dean (FW)*, **Dr. Shubhashis Sanyal**, *Professor, ME* served as Patrons, and **Dr. Badrilal Gupta**, *Professor, NITTTR Bhopal* and **Dr. Hussain Jeevakhan**, *Assistant Professor, NITTTR Bhopal* were the Special Guests for this event.

**Dr. Shubhashis Sanyal** emphasized the importance of effective pedagogical practices and acknowledged NITTTR's support. **Dr. Debashis Sanyal** shared insights on balancing professional and personal responsibilities, stressing organized record-keeping. **Dr. Shrish Verma** highlighted transformative academic reforms, including **Outcome-Based Teaching** and innovative tools like chatbot interactions to

enhance student engagement. He advocated for implementing the **National Education Policy (NEP)**, focusing on the **Academic Bank of Credit (ABC)** and **National Credit Framework (NCRF)**.

Participants, including **Dr. Sana Tak**, *Professor, BIT Raipur*, praised the workshop's impact and thanked mentors. The ceremony concluded with feedback sessions, a sapling presentation to **Dr. Verma**, and the national anthem. The workshop reinforced strategies for aligning education with global standards, fostering innovation in teaching methodologies. With **37 participants** from **NIT Raipur** and **BIT Raipur**, the workshop concluded with feedback sessions and the national anthem, reinforcing strategies for global academic standards.

## Online Faculty Training on Sustainable Civil Engineering Materials

**Department of Civil Engineering (CE)**, **NIT Raipur**, in collaboration with the **AICTE Training and Learning (ATAL) Academy**, conducted a **six-day online faculty training program on Sustainable Civil Engineering Construction Materials in Infrastructure and Industry** from 6<sup>th</sup> Jan. 2025 to 11<sup>th</sup> Jan 2025. Coordinated by **Dr. Meena Murmu**, *Assistant Professor, CE* and **Dr. Govardhan Bhatt**, *Assistant Professor, CE*. The program aimed to advance research and industry collaboration in sustainable construction.

The inaugural session was graced by **Dr. N.V. Ramana Rao**, *Director, NIT Raipur*, who emphasized sustainable materials like recycled aggregates and geopolymers. **Dr. S.V. Deo**, *HoD, CE*, urged participants to leverage insights from **13 experts**, including speakers from **Singapore, Canada, IITs, NITs**, and industry. Topics ranged from low-carbon concrete to AI-driven material optimization.

The program encouraged faculty to pursue collaborative research and explore green construction innovations. Over **100 participants** gained insights into sustainable practices, concluding with a vote of thanks by **Dr. Bhatt**.

## Five-Day Faculty Development Program

**NIT Raipur**, in collaboration with **NITTTR Chandigarh**, inaugurated a **five-day online Faculty Development Program (FDP) on Outcome-Based Curriculum Design** on 10<sup>th</sup> Feb. 2025. The program, aligned with **NEP 2020** and industry requirements, focuses on curriculum development strategies, including **Outcome-Based**

**Education (OBE)**, **AI tools for teaching**, **industry networking**, and the **National Credit Framework**. Designed for faculty members, it aims to enhance pedagogical methodologies and align academic practices with global standards.

## Certificate course on Foundations of Cyber Physical System

**Department of Computer Science and Engineering (CSE)**, **NIT Raipur** launched a certificate course on **Foundations of Cyber Physical System** from 6<sup>th</sup> Jan. to 7<sup>th</sup> Mar. 2025. The Chief Patron of the workshops were **Dr. N.V. Ramana Rao**, *Director, NIT Raipur* and **Dr. G.P.S.C. Mishra**, *Dean (R&C)*, **NIT Raipur** would be serving as the Co-Patron, the workshop was chaired by **Dr. Pradeep Singh**, *HoD, CSE*. The Certificate Course on Foundation of Cyber Physical Systems was led by the Coordinators **Dr. Manu Vardhan**, *Assistant Professor, CSE*, **Dr. Nitesh K. Bharadwaj**, *Assistant Professor, CSE*, **Dr. Madhukrishna Priyadarsini**, *Assistant Professor, CSE*.

The Certificate Course on Foundations of Cyber Physical Systems was designed to offer a comprehensive understanding of cyber-physical systems (CPS), focusing on automation through AI and hands-on case study experience. The key topics include CPS computation platforms, real-time sensing, communication, attack detection, etc.

This event was excellent opportunity for students and professionals to enhance their expertise in critical fields of technology.

## Online Workshop on Ethical Hacking and Digital Forensics

**Department of Computer Science and Engineering (CSE)**, **NIT Raipur** organised a 15-day online workshop on **Ethical Hacking and Digital Forensics** from on 27<sup>th</sup> Jan. 2025 to 12<sup>th</sup> Feb. 2025. The organizing team for this workshop were **Dr. G.P.S.C Mishra**, *Dean (R&C)*, **Dr. Pradeep Singh**, *HoD, CSE*, **Dr. Akanksha Sharaff**, *Assistant Professor, CSE* and **Dr. Nitesh K. Bhardwaj**, *Assistant Professor, CSE*. The inaugural ceremony was graced by **Dr. N V Ramana Rao**, *Director, NIT Raipur* as the Chief Guest, and **Prof. Subhojit Ghosh**, *Chairman, CEC, NIT Raipur* as the Guest of honour.

**Dr. Rao**, in his address, emphasized the growing importance of ethical hacking in strengthening cybersecurity. He highlighted that certified ethical hackers and professionals skilled in Python, C++, and Java are crucial for investigating



data breaches, taking legal actions, and driving development and research in cybersecurity. **Dr. Bhardwaj** welcomed everyone to the workshop, mentioning that this was the 2nd edition of the program, with the first successfully conducted in June. The workshop aims to provide participants with insights into ethical hacking, penetration testing, Linux, network forensics, vulnerability analysis, password cracking, malware analysis, IoT security, and how to adopt a hacker's mindset to strengthen defenses against cyber threats. **Dr. Ghosh** acknowledged the participation of professionals from the police and income tax departments, highlighting the inclusion of topics like blockchain and hardware security in the sessions. He suggested that future workshops could expand on these aspects to provide a more comprehensive understanding of cybersecurity. **Dr. Sharaff** delivered a vote of thanks, appreciating the efforts of all research scholars involved in organizing the workshop.

## Online Workshop on Data Science and its Application

**Department Computer Science and Engineering (CSE)** inaugurated a 15-day online workshop on **Data Science and its Application** from on 13<sup>th</sup> Jan. to 29<sup>th</sup> Jan. 2025. This workshop aimed to equip participants with a comprehensive understanding of data science, focusing on its practical application to solve real-world challenges. The coordinators for this workshop were **Dr. Akanksha Sharaff**, *Assistant Professor, CSE*, **Dr. Jitendra Kumar Rout** *Assistant Professor, CSE* and **Dr. Nitesh K. Bhardwaj** *Assistant Professor, CSE*. The inaugural ceremony was graced by **Mr. Vivek Gupta**, *Director, Infogain*, as the Chief Guest, and **Dr. N.V. Ramana Rao**, *Director, NIT Raipur* as the *Guest of Honour*.

In his address, **Dr. Rao** highlighted the importance of data science and discussed its key components. He elaborated on its applications in diverse areas such as healthcare, finance, marketing, transportation, social media, energy, education, and urban development. Emphasizing its significance, he stated that data science is a crucial tool in today's world, with its applications set to expand further, offering solutions to critical global challenges. **Mr. Gupta**, a prominent leader in the AI industry, emphasized in his address that data science is an art that can be mastered through practice and is centered on effectively conveying the story behind data to an audience. **Dr. Shubhojit Ghosh**, *Professor, EE* highlighted the issue of individuals applying data science concepts without a solid understanding of the underlying mathematics. He shared that

the program would include both theoretical aspects and hands-on learning with case studies, wishing participants the best in gaining valuable insights from it. **Dr. Pradeep Singh**, *HoD, CSE* emphasized how the program would cover various applications of data science, illustrating with examples how data science can be applied to different organizations and problems by effectively manipulating data to find solutions. The event concluded with a vote of thanks by **Dr. Rout**.

## Online Workshop on Blockchain, Fintech and Cybersecurity: Shaping the Future of Secure Digital Finance

**Department of Computer Science & Engineering (CSE), NIT Raipur** organized a 10-day online **Workshop on Blockchain, Fintech, and Cybersecurity: Shaping the Future of Secure Digital Finance**, which commenced on 6<sup>th</sup> Jan. 2025 to 16<sup>th</sup> Jan. sponsored by **IBITF (NM-ICPS)** under the *Department of Science and Technology (DST)*, the program aimed to familiarize attendees with the critical roles of blockchain, fintech, and cybersecurity in shaping secure digital financial ecosystems. The inaugural ceremony was graced by **Mr. Prabhat Malik**, *IAS and CEO, CHIPS*, as the *Chief Guest* and **Dr. N.V. Ramana Rao**, *Director, NIT Raipur* as *Guest of Honor*. The workshop coordinators were **Dr. Preeti Chandrakar**, *Assistant Professor, CSE* and **Dr. K. Jairam Naik**, *Assistant Professor, CSE*.

The inaugural ceremony by a welcome address from **Dr. Chandrakar**. She extended a warm welcome to the guests and participants, introduced the Chief Guest, **Mr. Malik**, and provided an overview of the program. During his address, **Dr. Rao** emphasized the importance of robust cybersecurity measures to safeguard sensitive financial data. Highlighting issues such as cyberattacks and fraud in the digital finance domain, he underlined the significance of technologies like AI-powered security, real-time threat detection, quantum cryptography, and blockchain protocols in ensuring secure fintech platforms. **Mr. Malik** shared insights into the interplay between blockchain, fintech, and cybersecurity while explaining that blockchain ensures tamper-proof transaction records, fintech improves the efficiency of financial services, and cybersecurity safeguards systems from threats. **Dr. Singh** welcomed faculty, students, and guests to the workshop and elaborated on the need for collaborative efforts in fintech, blockchain, cybersecurity, and AI to ensure secure digital finance. The event concluded with a vote of thanks by **Dr. Naik**.

### Expert Lectures delivered by Institute Faculty/Staff

- **Dr. Govardhan Bhatt**, Assistant Professor, CE delivered an expert lecture on *AI and Energy Efficiency in Smart Cities* at **Online Faculty Development Programme (FDP)** organised by *Jodhpur Institute of Engineering & Technology* on 6<sup>th</sup> Jan. 2025.
- **Dr. Govardhan Bhatt**, Assistant Professor, CE delivered an expert lecture on *Advantages of engineered cementitious composites* at **Sustainable concrete for new generation** organised by *ICI, Ultratech cement* on 16<sup>th</sup> Jan. 2025.
- **Dr. Govardhan Bhatt**, Assistant Professor, CE delivered an expert lecture on *AI and energy efficiencies in smart cities* at **One week faculty development program** organised by *Dr. Rajendra Gode Institute of Technology and Research* on 4<sup>th</sup> Feb. 2025.
- **Dr. Govardhan Bhatt**, Assistant Professor, CE delivered an expert lecture on *Ensuring Structural Integrity In Smart Cities: Advanced Concrete Crack Detection with YOLO V8* at **ASCE international college** organised by *ASCE India section and Punjab engineering college.* on 7<sup>th</sup> Feb. 2025.
- **Dr. Govardhan Bhatt**, Assistant Professor, CE delivered an expert lecture on *The Role of Artificial Intelligence (AI) in Enhancing Energy Efficiency in Civil Engineering and Smart Cities* organised by *M.M.M. University of Technology* on 17<sup>th</sup> Feb. 2025.
- **Dr. Preeti Chandrakar**, Assistant Professor, CSE, NIT Raipur delivered an expert lecture on *Emerging Technology in Fintech Security: Blockchain and Distributed Ledger Technology* in **One Day National Webinar** organized by the *Government Autonomous College, Rourkela* on 19<sup>th</sup> Feb. 2025.
- **Dr. Preeti Chandrakar**, Assistant Professor, CSE, NIT Raipur delivered an expert lecture on *Blockchain and Distributed Technology: Transforming Fintech Security* in the **Faculty Development Program** organized by *IIT Bhilai* on 28<sup>th</sup> Feb. 2025.
- **Dr. Preeti Chandrakar**, Assistant Professor, CSE, NIT Raipur delivered an expert lecture on *Blockchain as Public Ledger* in a **10-day Online Workshop on Blockchain, Fintech, and Cyber Security: Shaping the Future of Secure Digital Finance (BFC-25)** organized by *NIT Raipur* on 6<sup>th</sup> Jan. 2025.
- **Dr. Preeti Chandrakar**, Assistant Professor, CSE, NIT Raipur delivered an expert lecture on *Emerging Technology Blockchain for Fintech Security* in a 5-day program at **Fintech Security Bootcamp** organized by *IIT Bhilai* on 4<sup>th</sup> Feb. 2025.
- **Dr. Nitesh K Bharadwaj**, Assistant Professor, CSE, delivered an expert lecture on *Cyber Security at the Five-Day Training Program for Class III Employees* organized by *Chhattisgarh Governor's Secretariat Raj Bhawan, Raipur* on 11<sup>th</sup> Jan. 2025.
- **Dr. Nitesh K Bharadwaj**, Assistant Professor, CSE, delivered an expert lecture on *Emergence of AI in Digital Forensics* during the **Faculty Development Program (FDP) on Unleashing the Real-World Applications of Artificial Intelligence and Machine Learning** sponsored by **Ministry of Electronics and Information Technology (MeitY), GoI**, and jointly organized by *E & ICT Academy, NIT Warangal*, and *Department of Computer Science & Engineering, SVNIT Surat* on 20<sup>th</sup> Jan. 2025.
- **Dr. Nitesh K Bharadwaj**, Assistant Professor, CSE, conducted sessions on *Tools and Techniques in Digital Forensics at the Cyber Commandos Training Program* sponsored by **Ministry of Home Affairs** and **Indian Cybercrime Coordination Centre (I4C)**, hosted by *Defence Institute of Advanced Technology (DIAT), Pune*, on 22<sup>nd</sup> to 23<sup>rd</sup> Jan. 2025.
- **Dr. Aakanksha Sharaff**, Assistant Professor, CSE, delivered an expert lecture on *Introduction to AI and ML in E & ICT* Sponsored Online FDP on *From Research to Reality: Translating AI and ML Innovations into Practice* in **Association with School of CSE & IS, VIT Vellore**, sponsored by *Ministry of Electronics and Information Technology (MeitY), GoI*, at *NIT Warangal* from 21<sup>st</sup> Feb. 2025 to 2<sup>nd</sup> Mar. 2025.
- **Dr. Aakanksha Sharaff**, Assistant Professor, CSE, delivered an expert lecture on *Pipelining with advanced architecture in Expert Lecture of Computer Architecture and Organization* at **G.H. Rasoni Institute of Engineering and Technology, Nagpur** on 7<sup>th</sup> Mar. 2025
- **Dr. Sapan Mohan Saini**, Professor, DoP, delivered an expert lecture on *Bandgap, Stability and Beyond: The thermoelectric Promise of Heusler Alloys* in **one day workshop on Solid State Electronic Technologies: From Bulk to Quantum systems** organized by *DoP, IIT Roorkee* on 8<sup>th</sup> Feb. 2025.



- **Mr. Pawan Kataria**, Assistant Registrar, CDC, delivered an invited expert lecture on *Integrating Innovation and Entrepreneurship in Academia* in the **Short-Term Course on Innovation, Start-ups, and Industry-Academia Linkages** at **Pt. Ravishankar Shukla University, Raipur** organized by the *UGC – Malaviya Mission Teacher Training Centre* on 12<sup>th</sup> Feb. 2025.

## Patents

- A patent titled **Method for Fabrication of Cerium Oxide (CeO<sub>2</sub>) Microtubes**, filed by **Dr. Awanish Kumar**, HoD, DBT, **Dr. Chinmaya Mahapatra**, Assistant Professor, DBT, and **Mr. Dilip Kumar Chandra Ph.D. Scholar**, was published by **The Patent Office, Government of India** on 28<sup>th</sup> Jan. 2025.
- A patent titled **Method for real-time news verification and Misinformation detection using AI-driven augmented reality smart glasses**, filed by **Dr. Aakanksha Sharaff**, Assistant Professor, CSE and **Ms. Rakhi Seth**, Research Scholar, CSE was published by **The Patent Office, Government of India** on 21<sup>st</sup> Mar. 2025.

## Sponsored Research Projects

- A project titled *Price Forecasting of Hot Rolled Coil Ex-Yard Prices in Mumbai via Machine Learning* by **Dr. Pradeep Singh**, PI and Associate Professor, CSE, **Dr. Naresh Kumar Nagwani**, CO-PI and Professor, CSE, **Dr. Nitesh K Bharadwaj**, CO-PI and Assistant Professor, CSE sanctioned by **BigMint Technologies Pvt. Ltd., Raipur, Chhattisgarh**, Grant of Rs. 3,30,000/- for the period of 6 months.

## Ph.D Thesis Defended

- **Mr. Yugal Kishor** defended his Ph.D. thesis entitled *Modelling and Implementation of High-gain converter for a Solar PV System* under the supervision of **Dr. Ramnarayan Patel**, Associate Professor, EE and **Dr. Lalit Kumar Sahu**, Assistant Professor, EE on 4<sup>th</sup> Nov. 2024
- **Ms. Baitule Payal Kamalakar** defended his Ph.D. thesis entitled *Study of green corrosion inhibitor for mild steel in alkaline medium containing chloride ions* under the supervision of **Dr. Manivannan**, Associate Professor, DCE on 27<sup>th</sup> Nov. 2024
- **Mr. Amit Kumar Shukla** defended his Ph.D. thesis entitled *Cryosphere studies and impact of climate change in Teesta River basin* under the supervision of **Dr. Ishtiyag Ahmad**, Assistant Professor, CE, **Dr. Sanjay Kumar Jain**, Scientist-G, NIH Roorkee, **Dr. Mani Kant Verma**, Assistant Professor, CE on 28<sup>th</sup> Nov. 2024.
- **Mr. Shubham Yadav** defended his Ph.D. thesis entitled *Optimal design of adaptive noise cancellers using Meta-Heuristic approach for bio-medical signals* under the supervision of **Dr. Suman Kumar Saha**, Assistant Professor, ECE on 5<sup>th</sup> Dec. 2024.
- **Ms. Arkaprava Bhadhuri Mandal** defended his Ph.D. thesis entitled *Design of Anti-Forensics Schemes to Evaluate the Security and Robustness of Image Forensics Schemes* under the supervision of **Dr. Tanmoy Kanti Das**, Assistant Professor, DCA on 10<sup>th</sup> Dec. 2025.
- **Mr. Bupesh Kumar Chandrakar** defended his Ph.D. thesis entitled *Analytical modelling for vibration analysis of cracked tapered plates subjected to different surrounding mediums* under the supervision of **Dr. Nitin Kumar Jain**, Professor, DME on 13<sup>th</sup> Dec. 2025.
- **Mr. Devendra Kumar Golhani** defended his Ph.D. thesis entitled *An Investigation on Optical and Magnetic Properties of Biosynthesized GeO<sub>2</sub> Nanoparticles* under the supervision of **Dr. Ayush Khare**, Professor, DoP on 20<sup>th</sup> Dec. 2024.
- **Mr. Akhilesh Kumar Tiwari** defended his Ph.D. thesis entitled *Investigation and Development of Multiport Electric Vehicle Charging System* under the supervision of **Dr. Lalit Kumar Sahu**, Assistant Professor, EE on 28<sup>th</sup> Dec. 2024.
- **Mr. Vishal Kumar** defended his Ph.D. thesis entitled *Noise mapping hotspot identification and mitigation approaches for an urban area* under the supervision of **Dr. A. V. Ahirwar**, Associate Professor, CE on 30<sup>th</sup> Dec. 2024.
- **Mr. Anand Kumar Singh Parihar** defended his Ph.D. thesis entitled *Under-utilization of maternal and child health care services: a study of Tharu Tribe in Balrampur district of Uttar Pradesh* under the supervision of **Dr. Moksha Singh**, Assistant Professor, DHSS on 31<sup>st</sup> Dec. 2025.
- **Mr. Sathiri Naveen** defended his Ph.D. thesis entitled *Parametric study on sustainable Engineered Cementitious Composites (ECC) by using industrial*

by-product materials under the supervision of **Dr. Govardhan Bhatt**, Assistant Professor, CE on 11<sup>th</sup> Jan. 2025.

- **Mr. Pritish Behera** defended his Ph.D. thesis entitled *Role of Social Competence in Vocational Education and Training* under the supervision of **Dr. Shashikanta Tarai**, Assistant Professor, DHSS, and **Dr. Moksha Singh**, Assistant Professor, DHSS on 23<sup>rd</sup> Jan. 2025.
- **Mr. Mohammad Usama** defended his Ph.D. thesis entitled *Typological Error Patterns in Written English: Syntactic Evidences from Indo-Aryan and Dravidian Speakers* under the supervision of **Dr. Shashikanta Tarai**, Assistant Professor, DHSS on 24<sup>th</sup> Jan. 2025.
- **Mr. Bittu Kumar** defended his Ph.D. thesis entitled *Non-enzymatic Electrochemical Biosensors based on Hybrid TiO<sub>2</sub> Nanostructures for Glucose and Cholesterol Detection* under the supervision of **Dr. Sudip Kumar Sinha**, Assistant Professor, MME on 31<sup>st</sup> Jan. 2025.
- **Mr. Basingala Praveen Kumar** defended his Ph.D. thesis entitled *Development and Ablation Performance study of Plasma Spray Coated Ablative Carbon-Phenolic Composite Material* under the supervision of **Dr. N.V.Swamy Naidu**, Professor, DME on 3<sup>rd</sup> Feb. 2025.
- **Ms. Jyoti Sankar Prusty** has defended her Ph.D. thesis entitled *Isolation, Identification and Characterization of Antifungal Peptides (AFPs) from Microbes against Fungal Pathogen Candida albicans* under the supervision of **Dr. Awanish Kumar**, Associate Professor, DBT on 3<sup>rd</sup> Feb. 2025.

- **Mr. Nitesh Kumar Singh** defended his Ph.D. thesis entitled *Bone remodelling-based optimization of porous driven interspinous fusion device* under the supervision of **Dr. Nishant Kumar Singh**, Assistant Professor, BME on 5<sup>th</sup> Feb. 2025.
- **Mr. Kummari Venkatesh** defended his Ph.D. thesis entitled *A Framework for Crop Yield Prediction and Nutrient Deficiency Identification in Precision Agriculture using Deep Learning Approaches* under the supervision of **Dr. K Jairam Naik**, Assistant Professor, CSE on 7<sup>th</sup> Feb. 2025.
- **Mr. Jay Kumar Mehra** defended his Ph.D. thesis entitled *Role of Interfacial Electric Field in Thermoelectric Property of In<sub>x</sub>Al<sub>1-x</sub>N/GaN Superlattice* under the supervision of **Dr. Bijaya Kumar Sahoo**, Professor, DoP on 8<sup>th</sup> Feb. 2025.
- **Mr. Rahul Sharma** defended his Ph.D. thesis entitled *Micromechanical Analysis of Fuzzy Fiber-reinforced Composite Containing Radially Grown Carbon Nanotubes* under the supervision of **Dr. Rajana Suresh Kumar**, Assistant Professor, DME on 12<sup>th</sup> Feb. 2025.
- **Mr. Kranthi Kumar Guduru** defended his Ph.D. thesis entitled *Design and Development of Carbon Fiber Composite Material for Industrial Applications by Additive Manufacturing* under the supervision of **Dr. G. Srinivasu**, Assistant Professor, DME on 21<sup>st</sup> Feb. 2025.
- **Mr. Tarun Jaiswal** defended his Ph.D. thesis entitled *Image Captioning Through Cognitive IoT and Machine Learning Approaches* under the supervision of **Dr. Manju Pandey**, Associate Professor, DCA on 7<sup>th</sup> Mar. 2025.

## Awards, Recognition, and Fellowship

- **Dr. Govardhan Bhatt**, Assistant Professor, CE has been appointed as a **Member** of Chhattisgarh Rural Housing Technical Advisory Committee on 16<sup>th</sup> Dec. 2024.
- **Dr. Aakanksha Sharaff**, Assistant Professor, CSE, has been awarded **Best Paper Award** for her lecture on **Predicting Climate Temperature using Hybrid Models** in 1<sup>st</sup> International Conference on Interdisciplinary Horizons: Integrating AI in Science, Management, and Technology ICON-AI-SMT'25 organized on 20<sup>th</sup> to 21<sup>st</sup> Feb. 2025.
- **Mr. Suresh Dua**, Technical Assistant, MME, and a cyclist received the **Super Randonneurs** title in just 6 days from 21<sup>st</sup> to 26<sup>th</sup> Feb. 2025 in an event organized by Raipur Randonneurs. **Mr. Suresh** is the first rider from Chhattisgarh who completed the Super Randonneurs title in 6 days and has won 8 times. In 2025, he won the Super Randonneurs title twice.

## Research Publications

- **Dr. Awanish Kumar**, Associate Professor, **Dr. Chinmaya Mahapatra**, Assistant Professor, **Mr. Dilip Kumar Chandra**, PhD Scholar have published a journal titled **Advanced Nano-Enhanced Bioplastics for Smart Food Packaging: Enhancing Functionalities and Sustainability**, in *Cleaner and Circular Bioeconomy*, Elsevier.
- **Dr. Awanish Kumar**, Associate Professor, **Dr. Chinmaya Mahapatra**, Assistant Professor, **Dr. Dilip Kumar Chandra**, PhD Scholar have published a journal titled **Smart Nano-Hybrid Metal-Organic Frameworks:**



**Revolutionizing Advancements, Applications, and Challenges in Biomedical Therapeutics and Diagnostics, in Hybrid Advances, Elsevier.**

- **Mr. Uttam Sarkar**, *PhD Scholar, NIT Raipur*, **Mr. Manjeet Singh**, *Research Scholar, Shiv Nadar University*, **Dr. Mrinal K. Adak**, *Postdoctoral Research Associate, IIT Ropar* and **Dr. Sagarika Bhattacharya**, *Assistant Professor, DoC, NIT Raipur* have published their research on **Lanthanide-Tetradentate Schiff Base-PMMA Composite Films for Tunable White Light Emission** in *Adv. Optical Mater.* **2024, 2402592.**
- **Dr. Satya Eswara Sanyasi Rao Kolli**, *PhD Scholar, CE*, and **Dr. Govardhan Bhatt**, *Assistant Professor, CE* published a journal on **Advanced Seismic Performance Assessment of a Base-Isolated Open Ground-Reinforced Concrete Structure Using Passive Negative Stiffness Device and Fluid Viscous Dampers**, in the *Journal of Earthquake Engineering*.
- **Dr. Rakesh Shivaji Mawal**, *PhD Scholar, CE*, and **Dr. Govardhan Bhatt**, *Assistant Professor, CE* published a review paper on **Various External Strengthening Techniques for Reinforced Concrete Deep Beam with Openings**, in the *SSRG International Journal of Civil Engineering Volume 12 Issue 2, 79-88, Feb 2025.*
- **Dr. Sapan Mohan Saini**, *Professor, DoP* and **Ms. Lokanksha Suktel**, *Research Scholar, DoP* have published a journal titled **Comparative analysis of electronic, mechanical, vibrational, thermodynamical and thermoelectric properties of Li based quaternary Heusler's LiNbRhAl, LiNbRhGa and LiNbRhIn alloys: A DFT study** in *Computational Condensed Matter* **42 (2025) e00987.**

## Students' Corner

- **Aishwary Singh**, *8<sup>th</sup> Sem., DCE* and **Prateek Singh**, *6<sup>th</sup> Sem., DCE* secured the **National Winner** title in the **Nation with NaMo-Nation Building Case Competition**.
- **Prabhat Sharma**, *6<sup>th</sup> Sem., ECE* and **Anurag Yadu**, *6<sup>th</sup> Sem., ME* won the **MindQuest: Inter-College Quiz**, organized by **Times of India** and **Krishna Group of Institutions**.
- **Abhay Sen**, **Abhigyan Verma**, and **Ansh Shrivastav**, *6<sup>th</sup> Sem., IT* clinched the **Winner** title, while **Rudra Katrodiya** were **Runner-Up** in **Raipur Regional Stage of NTPC Electron Quiz 2025**.
- **NIT Raipur's football team** emerged as the **Champions** of the **Inter-NIT football tournament** hosted by **NIT Rourkela** after beating **NIT Calicut** in the finals to secure the **Gold Medal**.
- **NIT Raipur's Girl's handball team** emerged as the **Champions** of the **Inter-NIT handball tournament** hosted by **NIT Warangal**.
- **Prakash Kumar Sahu**, *2<sup>nd</sup> Sem., CSE* won a **Gold Medal** in the **Yogasana Artistic Pair Event** and a **Bronze Medal** in the **Artistic Singles Division** at the **38th National Games** in **Almora, Uttarakhand**.
- **Priyanka Sahu**, *8<sup>th</sup> Sem., EE* was awarded **Best Player of the Tournament** at the **Inter-NIT Handball (Girls) Tournament**, hosted by **NIT Warangal**.
- **Prakhar Shrivastava**, *8<sup>th</sup> Sem., ME* represented **NIT Raipur** at the **Viksit Bharat Young Leaders Dialogue** during the **National Youth Festival 2025**.
- **Rohan Jain**, *6<sup>th</sup> Sem., MME* received the **Best Actor Award** in the stage play competition **Third Bell**, organized by **Mood Indigo, IIT Bombay**.
- **Suryansh Srivastava**, *8<sup>th</sup> Sem., DC*, **Somil Puri**, *8<sup>th</sup> Sem., DCE*, and **Yahoo Singh**, *8<sup>th</sup> Sem., DCE*, secured **Runner Up** Position in the case competition of **KIRIT 5.0** held by **Kirloskar Institute of Management, Pune** where over **29,000** teams participated.

## Club/Committee Activities

### Sanskriti – The Cultural Committee

#### Eclectika'25



Sanskriti - The Cultural Committee, NIT Raipur, inaugurated **Eclectika'25**, Central India's largest annual cultural fest, on 7<sup>th</sup> Feb. 2025. The three-day extravaganza, organized under the guidance of **Dr. Nitin Jain, Dean (SW)**, celebrated art, music, and culture with fervor.

The inauguration ceremony was graced by **Dr. A.B. Soni, Professor, DCE**, as Chief Guest, along with **Dr. P.Y. Dhekne, Registrar, NIT Raipur**, and other faculty dignitaries. **Dr. Jain** emphasized Eclectika's role in nurturing artistic talents through collaborations with clubs like **Go Green, Click Club**, and **Aakriti**. **Dr. S. Sanyal, Professor, ME**, highlighted the fest's alignment with national goals, while **Dr. Samir Bajpai, Head, CDC** stressed resource optimization. **Dr. Shrish Verma, Dean (Academics), NIT Raipur**, traced Eclectika's origins and its evolution into Central India's premier cultural fest. **Dr. Soni** declared the fest open, urging participants to embrace a winning mindset.

The first day featured mega-events like **Kalopsia** (Art Competition), **Tafree** (Stand-Up Comedy), and **Avirbhaav** (War of Bands), where teams delivered electrifying performances on songs like *Aigiri Nandini* and *Mai Pareshan*. Mini-events such as **Got a Guess**, **Pixel Lane**, and **Trash to Ramp** also drew enthusiastic participation. The day concluded with the **Artist Night**, featuring singers **Laqshay Kapoor** and **Anshika Pandey**, who mesmerized the audience with *Dil Se Dil Tak*.

On the second day, **Eclectika Idol** saw **Neha Niharikar** secured first place and **Ammaram Madhu** finished as runner-up. **Goonj - The Nukkad Natak** featured compelling street plays, judged by actor **Pinku Prasad Sharma**. **Abhinay - The Drama Club** won with their act *Insaan Ki Mandi*, while **Rajbhasha Samiti** secured second place with *Khamoshi Ke Mukhaute*.

Fun activities like **Papertopia**, **Slow Cycling**, and **Plastic Hunt** by **Go Green Committee** promoted sustainability. The evening's **Cult Nite** saw **Raaga - The Music Club** energize the audience with *Udta Punjab* and *Jeene Ke Hai Chaar Din*, while **Nrityam - The Dance Club** dazzled with *Ram Chahe Leela* (Western) and *Shiv Strotam* (Classical).



The final day began with **SnakeMania**, a session by **Nova Nature Foundation**, which debunked myths about snakes and honored sanitation workers. **Allure** (Fashion Show) saw **Vishwanatt, IT**, and **Shruthi, DCE**, clinch top honors. **Clash of Choreos** featured performances on songs like *Jo Bheji Thi Dua* and *Malhari*, with **The OGtist Crew** (Pandit Harishankar College) and **The Cross Crew** (Raipur) winning first and second places, respectively. Mini-events like **Solve the Cube**, **Sudoku**, and **Eco Quiz** kept the campus buzzing with energy. The **Finance & Consulting Club (FCC)** hosted a speaker session with **Mr. Ashutosh Gajendra, Centre Manager, Faculty of QA, iQuanta Raipur**, who shared insights on financial management. Engaging events like **Guesstimate** and **Money Haul** made the session informative and enjoyable. The fest culminated with the **EDM Night**, where attendees immersed themselves in electrifying music and vibrant energy. The closing ceremony featured prize distributions for competition winners, marking the culmination of Eclectika'25.

#### Makar Sankranti celebration



Sanskriti - The Cultural Committee of NIT Raipur celebrated **Makar Sankranti** on 14<sup>th</sup> Jan. 2025. **Dr. N.V. Ramana Rao, Director, NIT Raipur**, **Dr. Samir Bajpai, Professor, CE**, **Dr. R.K. Tripathi, Professor, CE**, **Dr. D. Sanyal, Professor, DAP**, **Dr. Nitin Jain, Professor, ME** along



with other faculty members and students were present and enjoyed this wonderful program.

Kites were distributed to the students and faculties present there. The students and faculties showed great zeal and enthusiasm flying kites.

## SAMAR 2025 by Shaurya



**Shaurya - The Sports Committee, NIT Raipur** organized the annual sports fest **SAMAR 2025** from 23<sup>rd</sup> Jan 2025 to 26<sup>th</sup> Jan 2025. The event commenced with an inaugural ceremony attended by **Dr. N.V. Ramana Rao, Director, NIT Raipur**, **Dr. Nitin Jain, Dean (SW)**, **Dr. G.D. Ramtekkar, Dean (P&D)**, and **Dr. Alfia Bano, Professor In-charge, Shaurya**. The inauguration featured sapling presentations, a torch-lighting ritual, and a team parade, setting the tone for spirited competitions.

**Dr. Jain** emphasized sports' role in fostering discipline and mental resilience, while **Dr. Ramtekkar** urged participants to embody the battle spirit of SAMAR. **Dr. Rao** linked the event to the **Fit India Movement**, highlighting sports' impact on physical fitness, teamwork, and leadership.

The closing ceremony honoured winners across disciplines: **Kalinga University** (football, boys' basketball), **GEC Raipur** (kabaddi), **NIT Raipur** (volleyball boys, girls' basketball, cricket), and **HNLU Raipur** (volleyball girls). **Dr. Rao** lauded participants' sportsmanship, while **Dr. Shrish Verma, Dean (Academics)**, commended **Team Shaurya** for seamless execution. The event concluded with the national anthem and a group photo.

## Technocracy

### Aavartan'25

**Technocracy - The Technical Committee, NIT Raipur**, inaugurated its annual technical festival, **Aavartan 2025**, on 1<sup>st</sup> Feb. Aavartan brought together participants nationwide to showcase skills in robotics, coding, motorsports, and interdisciplinary fields. The ceremony was graced by **Dr. N.V. Ramana Rao, Director, NIT Raipur**, as *Chief Guest*, along with **Dr. Shrish Verma, Dean (Academics)**, **Dr. Debashis**

**Sanyal, Dean (FW)**, and **Dr. Samir Bajpai, Head, CDC**. The event was organized under the guidance of **Dr. Manu Vardhan, Faculty In-charge, Technocracy**.

**Dr. Vardhan** welcomed attendees and highlighted Aavartan as a platform for innovation, learning, and interdisciplinary collaboration, emphasizing the significance of **Vigyaan**, the National Science Exhibition. **Dr. Rao** praised the festival for enhancing technical skills and preparing students for real-world challenges. **Dr. Bajpai** stressed the importance of expertise and sustainable practices, aligning Aavartan with the principles of a circular economy. **Dr. Verma**, underscored Aavartan as the culmination of various technical events and urged students to remain engaged throughout the year by taking up projects and showcasing their talent. **Dr. Sanyal** stressed on the significance of creative thinking over mere quantity while applauding students for their interdisciplinary approach to problem-solving.

The event featured **Vigyaan**, the National Science Exhibition, showcasing prototype models aimed at solving real-world problems, featuring the latest technological advancements. A workshop on **Vehicle Data Applications**, led by **Mr. Gagandeep Singh**, explored trends like Software-Defined Vehicles (SDV) and High-Performance Computing (HPC). Competitions such as **Mock CID**, **Robo War**, and **Pixel Playground** saw enthusiastic participation. The day concluded with performances by **Raaga - The Music Club** and **Nrityam - The Dance Club**.



The tech-fest concluded on 2<sup>nd</sup> Feb with a grand closing ceremony. The closing ceremony was attended by **Dr. Samir Bajpai, Head, CDC**, **Dr. Anuj Shukla, Faculty In-charge, NITRRFIE**, and **Dr. Manu Vardhan**. **Dr. Bajpai** commended participants for their innovative projects, while **Dr. Shukla**, highlighted the importance of such events in fostering technical acumen. An inspiring speaker session featured **Roni Mondal, Co-Founder, Matri**, who shared his entrepreneurial journey. The **Robo Show** showcased **Chitti**, a robot performing dance moves and push-ups. **Team Care Catalyst** won the overall prize in Vigyaan, with **Team StrataSafe** as runners-up. Winners from each branch were felicitated by faculty members. The event concluded with a

vote of thanks by **Team Technocracy**, marking the successful culmination of Aavartan 2025.

### Speaker Session for Case Ops 3.0



**Technocracy- The Technical Committee, NIT Raipur** organized a workshop for Case Study competition, **Case- Ops 3.0** on 12<sup>th</sup> Jan. 2025. The workshop aimed to improve PPT-building skills, focusing on creating clear, visually appealing, and impactful presentations tailored for case study competitions. The event was graced by the presence of *Chief Guest Dr. Manu Vardhan, Faculty In-charge, Technocracy* and Guest Speakers and **Mr. Abhishek Gupta, NIT Raipur Alumnus, Founder, AB Classes** and **Miss. Anumeha Sharma, Educator, AB classes**.

The event began with an address by the *Chief Guest, Dr. Vardhan*, who welcomed the guests and participants. He emphasized that in today's era of rapid technological advancements, the session would bridge the gap between academia and industry, enhancing students' understanding, employability, and entrepreneurial spirit. The *Chief Guest* then felicitated the esteemed speakers with saplings, symbolizing growth and sustainability. The next address was by **Mr. Gupta**. He emphasized the importance of case studies and encouraged the audience to actively engage with the speakers. This was followed by **Ms. Sharma**, who shared insights from her college days at NIT Raipur and highlighted how case studies helped her excel in interviews and develop effective marketing strategies. She highlighted that case studies are vital for corporate interviews, MBA preparation, and lifelong learning. She further discussed the frameworks involved in cracking a case study, including SWOT analysis.

**Mr. Gupta** explained the BCG (Boston Consulting Group) matrix and elaborated on strategies like investing, divesting, analyzing, and milking products based on their market growth and relative market share. **Miss. Sharma** then discussed additional frameworks, including STP (Segmentation, Targeting, and Positioning) and PESTEL (Political, Economic, Social, Technological, Environmental, and Legal), highlighting their importance in analyzing and solving case studies effectively. The speaker then presented a model case

study to the audience and engaged them in an interactive brainstorming session to solve it together.

**Dr. Vardhan** presented a memento to the respected speakers as a token of appreciation. **Mr. Amitabh Shukla, Overall Coordinator, Technocracy** delivered the vote of thanks expressing his gratitude to the participants in making this event successful.

### Speaker Session on the Importance of DSA for Placement



**Technocracy- the technical committee, NIT Raipur** organized an insightful session on **Debugging and the Importance of DSA for Placement** on 17<sup>th</sup> Jan. 2025 which featured **Mr. Rithik Agarwal, a Computer Science graduate from IIT Hyderabad, currently employed at Qualcomm and a tech influencer on Instagram who shares valuable contents on DSA and coding**.

During the session, **Mr. Agarwal** shared his journey, highlighting his achievements, such as winning *Smart India Hackathon (SIH)*, while also emphasizing the lessons learned from the ten failed hackathons he participated in before he won. Addressing the students, he explained debugging strategies, including identifying compilation errors, runtime errors, and segmentation faults through practical examples. He advised students to consistently practice DSA on platforms like LeetCode, GFG, and Codeforces. Concluding the session, **Mr. Agarwal** underscored the importance of recursion as the foundation of DSA and urged students to solve 100 questions on core topics for basic-level packages and move to non-linear DSA for higher packages.

Technocracy also organized the final round of their flagship case study competition *Case-Ops 3.0* on 16<sup>th</sup> Jan. 2025. This was the third and final round of the competition. The teams presented their solutions to real-world problems, showcasing their analytical and problem-solving abilities. The Hon'ble panel comprised esteemed faculty members, **Dr. Chetna Rajput, Assistant Professor, DHSS** and **Dr. Anil Manjhi, Assistant Professor, DHSS**. Teams showcased their innovative and well-researched presentations on three critical problem statements.



## MotoSports

### Motosports Club in Formula Bharat Competition, Secured Overall 10th Position



Motosports Club, NIT Raipur's Team United Racing represented NIT Raipur at the **Formula Bharat Championship**, held at the **Kari Motor Speedway, Coimbatore, Tamil Nadu** from 22<sup>nd</sup> to 27<sup>th</sup> Jan. 2025. The team participated in the **Combustion Category** and emerged as the **National Finalist in Engineering Design Presentation**. Additionally, they secured the 10<sup>th</sup> rank in **Business Planning Presentation** and the 7<sup>th</sup> position in **Cost Report**. Overall, the **Motosports Team** achieved the 10<sup>th</sup> position among 28 teams participating from across the country.



The team's final test was graced by the presence of **Dr. N. V. Ramana Rao, Director, NIT Raipur**, **Dr. Shrish Verma, Dean (Academics)**, **Dr. P. Y. Dhekne, Registrar, NIT Raipur**, **Dr. Samir Bajpai, Head, CDC**, **Dr. Manoj Pradhan, Professor, DME**, **Dr. Sanjeev Kumar, Faculty In-charge, Team United Racing**, and **Dr. Anuj Kumar Shukla, Faculty In-Charge, NITRRFIE**. **Dr. Rao** inspected the progress and changes made to the car's design compared to the previous year. The **Formula Bharat competition** is a national-level event where students from various institutes across the country participate and showcase their self-designed Formula-style race cars, the design is tested at multiple levels, and prizes are awarded in different categories. The team had participated for the past two years, and this year proved to be phenomenal in comparison to the previous sessions, the **Team United Racing** underwent a transformative overhaul, significantly

altering the vehicle's design. Most of the parts were manufactured in-house to minimize unnecessary expenses.

### Dimensions: CAD Modelling Workshop and Competition by Aviation Club and Motosports



The **Aviation Club** and **MotoSports Club, NIT Raipur** successfully organized **Dimension: A workshop and competition on CAD modeling** using SolidWorks, with around 100 participants on 1<sup>st</sup> Feb. 2025. The event aimed to enhance student's 3D design and modelling skills through hands-on learning and competition. Participants learned to create precise 2D sketches and explored essential SolidWorks tools like Extruded Cut, Revolved Cut, and Mirror. Guided by expert mentors, students gained practical experience in 3D modelling and design visualization. The Professor In-charge was **Dr. N.V. Swamy Naidu, Professor, ME**.

### SAE e-BAJA 2025



**MotoSports Club, NIT Raipur** participated in **SAE e-BAJA 2025**, a national-level electric All-Terrain Vehicle (e-ATV) competition, held from 20<sup>th</sup> to 25<sup>th</sup> Feb 2025. The team designed and built an e-ATV, competing against top Indian teams to showcase innovation in electric mobility. The event emphasized technical knowledge, problem-solving, and collaboration.

The team successfully cleared **Mechanical and Electrical Technical Inspections, Weight Test, 2WD Test**, and received safety certification for their vehicle. Faculty in charge **Dr. Ankur Gupta Faculty In-charge, Team IgNITRR** and **Dr. Shailesh Vaidya Faculty In-charge, MotoSports Club** guided the team. The achievement highlights NIT Raipur's commitment to sustainable automotive technology and hands-on engineering excellence.

## Workshop on Vehicle Data Acquisition



**MotoSports Club, NIT Raipur** conducted a **Workshop on Vehicle Data Acquisition** provided deep insights into **Automotive Testing and Software-Defined Vehicles (SDVs)** on 1<sup>st</sup> Feb. 2025. A highlight of the workshop was the live demonstration of the **Micron Vehicle Data Acquisition Device** on a campus vehicle. This hands-on experience allowed participants to bridge the gap between theory and practice. **Dr Samir Bajpai, Head, CDC** graced the event. The professors In- charge of the event were **Dr. Ankur Gupta, Faculty In-charge, Team IgNITRR**, **Dr Shailesh Vaidya, Faculty In-charge, MotoSports**. **Mr. Gagandeep Singh** was a mentor to the team.

## E-Cell

### Innovation and Entrepreneurship Outreach Program in Schools



**Entrepreneurship Cell, NIT Raipur** in collaboration with the **Ministry of Education's Innovation Cell (MoE's Innovation Cell)**, **Institution's Innovation Council**, and **AICTE**, conducted the **Innovation and Entrepreneurship Outreach Program** in schools under the **IIC 7.0 Calendar Activities**. The program engaged students through **Atal Tinkering Labs (ATL)** and **School Innovation Councils (SIC)**, bridging the gap between theoretical knowledge and hands-on problem-solving. Under the guidance of **Dr. Samir Bajpai, Head, CDC**, and **Dr. Chandrakant Thakur, Faculty In-Charge, E-Cell**, the outreach successfully involved three schools in Raipur.

On 31<sup>st</sup> Jan. 2025, the team visited **Swami Atmanand English Medium School** as part of the outreach program. On 5<sup>th</sup> Feb. 2025, the team visited **J.R. Dani Girls School, Budhapara**, and **R.D. Tiwari Government School** for an interactive session. The outreach program successfully introduced

students to entrepreneurship, STEM education, and sustainable innovation.

## Workshop on Business Model & Mental Health

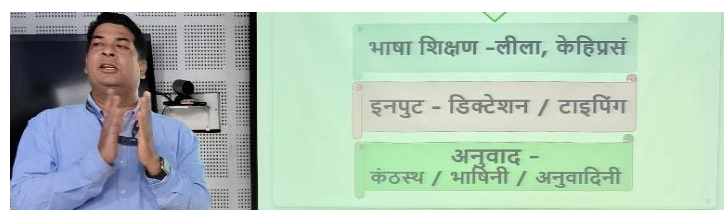
**Entrepreneurship Cell, NIT Raipur** organized a workshop on **Business Model & Mental Health** on 13<sup>th</sup> Feb. 2025, featuring **Mr. Abhilash Shrivastava, Co-founder, BetterSpace**, as a speaker. The session took place under the guidance of **Dr. Chandrakant Thakur, Faculty-In-Charge, E-Cell**. **Mr. Abhilash** advised startups to focus on securing a solid business model. He also discussed key challenges, such as financial risks, and strategies for sustaining businesses during a crisis.

## Rajbhasha Samiti

### Matribhasha Divas Celebration by Rajbhasha Samiti

**Rajbhasha Samiti, NIT Raipur** celebrated **Matribhasha Divas** on 21<sup>st</sup> Feb. 2025. Many events- like Kavita Lekhan, Nibandh Lekhan, Quiz, were organized online for the faculty members as well as students of NIT Raipur, and outside students. Winners of the events will be given a token of gratitude for promoting Matribhasha. The event was organized under the guidance of **Dr. S. M. Saini, Faculty In-charge, Rajbhasha Samiti**.

### Hindi Karyashala by Rajbhasha Samiti



**Rajbhasha Samiti, NIT Raipur** organized a Hindi Karyashala on 11<sup>th</sup> Mar. 2025. The keynote speaker for this workshop was **Mr. Abhishek Prakash, Translation Officer, Central Bureau of Investigation, Raipur**. The event was conducted under the guidance of **Dr. Sapan Mohan Saini, Faculty In-charge, Rajbhasha samiti**.

The workshop commenced with the lighting of the ceremonial lamp. A special discussion was held on the *Translation Software Tool Kantastya 2.0*, highlighting how modern technology can make Hindi more relevant. **Mr. Prakash** shared his insights on the subject, provided significant



suggestions to enhance the effectiveness of Hindi in the digital age and emphasized Hindi's digital relevance, advocating its mandatory use in central agencies like CBI Raipur under the Rajbhasha Adhiniyam, 1963. He stressed Devanagari script for official documents, the Sanskritisation of English terms, and quarterly Hindi Karyashalas with 60% practical application.

Highlighting technology's role, he discussed AI-driven tools like LILA for learning, Kantashth for translation, and IndiaTyping.com for keyboard mastery. He called for a structured Hindi curriculum for non-Hindi speakers and robust software like Kanthasth 2.0 by C-DAC Pune, ensuring meaning-driven translation. AI-based advancements, he concluded, are key to Hindi's integration into India's multilingual digital landscape. The workshop concluded with feedback from all participants. It served as an essential platform for understanding the digital applications of Hindi.

### Advanced Workshop on Lighting and Cinematography by Click Club



**Click Club, NIT Raipur** organized an engaging **Workshop on Lighting and Cinematography** powered by Nikon on 18<sup>th</sup> Jan. 2025. This workshop featured Nikon representative **Mr. Chetan Pahl**, *The Regional Head of the Nikon Team* as the *guest speaker*. The event, aimed at photography enthusiasts, focused on the art of lighting in visual storytelling and received an enthusiastic response from participants, including students from other colleges.

The workshop was mentored by **Mr. Pahl** along with **Mr. Parivesh Sharma**, *Sales and Marketing Team Head of Nikon Chhattisgarh*, and **Mr. Mohit**, *Technical Head of Nikon Chhattisgarh*. Together, they brought valuable insights into the nuances of Lighting, Photography, and Cinematography. **Mr. Pahl** shared his expertise on how lighting influences mood, tone, and composition in both photography and cinematography. He taught participants how to adapt lighting techniques to different situations, enhancing their storytelling ability.

### Blood Donation and Health Camp by Sahyog-The Student Wellbeing Club



**Sahyog - The Student Wellbeing Club, NIT Raipur** organized a **Blood Donation and Health Camp** in association with **AIIMS Raipur** on 25<sup>th</sup> Feb. 2025. The event was graced by the **Dr. N. V. Ramana Rao**, *Director, NIT Raipur* as the *Chief Guest* and **Dr. Nitin Jain**, *Dean (SW)* as the *Guest of Honor*. The event was conducted successfully under the guidance of **Dr. Ashish Das** and **Dr. Madhukrishna Priyadarshini**, *Faculty In-charges, Sahyog*.

**Dr. Rao** congratulated Team Sahyog for organizing the voluntary blood donation camp. He highlighted the pivotal role of blood donation in supporting patients suffering from chronic illnesses and emergency situations. The Health Camp Featured Eye-Checkup, Dental Check-up and Homeopathy Consultation conducted under the supervision of reputed doctors from AIIMS.

### Speaker session on Robotics and AI for Human Risk Mitigation in Core Sector by ROBOTiX Club



**Robotix Club, NIT Raipur** organised a speaker session on 15<sup>th</sup> Feb. 2025 on **Robotics and AI for Human Risk Mitigation in Core Sector**. **Mr. Abhimanyu Raja**, *Managing Director of Janyu Technologies Pvt. Ltd.* was the speaker of the session. **Mr. Raja**, **Mr. Anil Joshi**, *ED, BHEL*, **Mr. Sudhir Jha**, *Director, Janyu Tech*, **Mr. Pritam Yadav**, *GM, Janyu Tech*, **Mr. Anil Joshi**, *Board of Directors, Janyu Tech*, **Mr. Sudarshan**, **Mr. Yogesh Dongre** and **Dr Rajesh Doriya**, *Faculty (I/C), Robotix Club* were present at the event.

The guests and their company **Janyu Technologies Pvt. Ltd.** were introduced. **Dr. Shrish Verma**, *Dean (Academics)* gave introduction about *Robotix club* and the past and present of robotics domain. **Mr. Joshi** talked about effects and applications of robotics and AI in industries and domains, and the capabilities and potential of these in India. **Mr. Raja** talked about what we can do for core industries through robotics. He discussed a case where humans have to feed the raw material in high temperature smelters and are exposed to harmful gases and how robotic machines can take position of human and do the task.

The Q&A session was held and students asked their questions regarding the technology, applications and business. **Dr. Verma** gave a concluding speech summarising the challenges and solutions, also giving insights on knowledge required, team work, smart thinking and the experience from market and practical learning and the potential of India to dominate in the sectors of designing and manufacturing semiconductors.

### Expert Talk session on Nature and Control of Mind by Think India



**Think India and Bhaskaracharya Study Circle, NIT Raipur**, in collaboration with **IIT Bhilai**, successfully organized an expert talk session on **Nature and Control of Mind** on 17<sup>th</sup> Dec. 2024. The event featured distinguished speakers, including **His Holiness Sri Sri Shankara Bharati Mahaswamiji**, *Peethadheeshwara, Yadatore Sri Yoganandeshwara Saraswati Mutt*, and **Dr. Mulchand Harjani**, *Consultant Psychiatrist NH Hospital, Raipur*. The event also saw the presence of **Dr. N.V. Ramana Rao**, *Director, NIT Raipur*. **Dr. Dilip Singh Sisodiya**, *Associate Professor, CSE*, and **Dr. Rajana Suresh Kumar**, *Assistant*

*Professor, ME* were the In-charges of the event, with a special mention of **Dr. Govardhan Bhatt**, *Assistant Professor, CE*.

In his talk, **Dr. Harjani** highlighted the importance of mind control as a lifelong personal task essential for achieving inner peace and addressed challenges like anxiety. **Sri Mahaswamiji** delivered a discourse on the mind's nature and functions from a Vedantic perspective. **Dr. Rao** delivered the vote of thanks.

### Women's Day-cum-Orientation Session by UBA Club



**Unnat Bharat Abhiyan (UBA) club, NIT Raipur** organized a **Women's Day-cum-Orientation Session** on 8<sup>th</sup> Mar. 2025, aligning with the national **UBA initiative**. *Chief Guest* **Dr. M. K. Verma**, *Former VC, CSVTU and Professor, CE as Guest of Honour*. **Dr. Sanjay Kumar**, *HOD, IT*, emphasized rural development through tech-driven solutions. Experts like **Dr. Vijayalaxmi Biradar**, *Director IQAC, Kalinga University* and **Dr. Archana Asutkar**, *Govt. Nagarjuna PG College* discussed **organic farming, solar energy, and health camps** across 225 UBA-adopted villages.

The orientation highlighted NIT Raipur's role in promoting higher education and research in rural areas. **Dr. Sudhakar Pandey**, *Regional Coordinator, UBA* detailed initiatives like potable water projects and skill development. **Dr. Verma** stressed practical learning for grassroots impact, urging student participation in sustainable development. The valedictory session, attended by **Mrs. Jyoti Rao** and **Dr. Manvendra K. Tripathi**, *Associate Professor, MME* linked the event to **International Women's Day**, celebrating women's contributions to societal progress.

### Alumni Achievements

- **Mr. Shubham Agrawal** (2016/*Mechanical*) secured **All India Rank (AIR) 1** in the **Staff Selection Commission - Combined Graduate Level (SSC-CGL) 2024** examination scoring 383 out of 390 marks. He has been appointed as Assistant Section Officer (ASO) in the Ministry of External Affairs (MEA).
- **Mr Avinash Bouddh**, (2008/*Civil*) was appointed as *Coach of Chhattisgarh Team* for **All India Civil Services Cricket Tournament 2024-25**.
- **Shri Anand Jain** (1995/*Mechanical*), *IPS, Additional Director General, Jammu and Kashmir* was awarded the **President's Medal for Distinguished Service** on 26<sup>th</sup> Jan. 2025.



- **Shri Rajeev Sharma** (1988/Civil), *Officer, Border Road Organisation* was awarded **Vishisht seva medal** by President on the occasion of **Republic Day**.
- **Dr. Pradeep Ghosh** (1985/Civil) on appointed as **Vice Chancellor** of **Dr. C V Raman University**.
- **Mr. Sameer Sharma** (1988/Electrical) on appointed as **Executive Director** of **NTPC**.
- **Alumni Association of GEC NIT Raipur** Chapter West Bengal, organized an *alumnus meet* on 22<sup>nd</sup> Jan., 2025.
- **Alumni Association of GEC NIT Raipur** Chapter UAE, organised an *alumnus meet* on 26<sup>th</sup> Jan., 2025.

## GATE Results

NIT Raipur's students from various branches have excelled in the **Graduate Aptitude Test in Engineering examinations (GATE) 2025**. Following are the key rankers from NIT Raipur who have achieved outstanding results in the GATE examinations.

Name	Discipline	Batch	AIR
Aniket Kumar Gupta	Mining Engineering	2024	1
Priyanshu Gupta	Biomedical Engineering	2023	4
Gaurav Singh Kaushik	Mining Engineering	2025	7
Poshan Kumar Verma	Mining Engineering	2025	11
Apurv Luka	Engineering Sciences	2025	14
Umakant Sahu	Instrumentation	2025	15
Sauhardya Goswami	Biomedical Engineering	2025	16
Bhoj Pratap Rajwade	Mining Engineering	2025	21
Sampad Shubhadarshi Pradhan	Mining Engineering	2025	21
Som Prakash Rathore	Mining Engineering	2025	25
Muhammed Yaseen Ahmad	Instrumentation	2025	26
Saurabh Kumar Rai	Mining Engineering	2025	27
Kuna Sandeep Kumar	Electronics and Communication Engineering	2024	46
Apurv Luka	Mechanical Engineering	2025	14
J. Abhinandan Gupta	Electronics and Communication Engineering	2025	63
Kuna Sandeep Kumar	Electrical Engineering	2024	70
Utsav Sharma	Mining Engineering	2025	78
Itisha Kaiwart	Biomedical Engineering	2025	88
Raj Kumar Mishra	Biomedical Engineering	2025	99
Ayushman Singh	Electrical Engineering	2025	116

Shubham Rana	Mining Engineering	2025	133
Rishika Kanungo	Biotechnology	2025	133
Mohit Madhur	Biomedical Engineering	2025	150
Gaurav Kumar	Instrumentation	2025	163
Shivam Ranjan	Metallurgical and Materials Engineering	2026	167
M B Sai Krishna	Biomedical Engineering	2025	188
Abhay Rathore	Mining Engineering	2025	184
Omkar Singh Gautam	Mining Engineering	2025	192
Muhammed Yaseen Ahmad	Electronics and Communication Engineering	2025	343
Ashish Kumar	Computer Science Engineering and Information Technology	2025	351
Chhaman	Metallurgical and Materials Engineering	2026	395
Aryan Pareek	Metallurgical and Materials Engineering	2025	442
Piyush Raj	Civil Engineering	2025	665
Prem Abhinav Prasad	Electronics and Communication Engineering	2025	907
Gaurav Kumar	Electrical Engineering	2025	982

## Contribution to the Institution

### Donations

- **NIT Raipur** expresses sincere gratitude towards **Shri Amitava Sur** (*Mech/1970*) who has made a generous donation to the Institute.

### Appeal

Ever since its establishment in 1956, the institute has been serving and maintaining steady progress to achieve a unique feat in the highly competitive area of engineering and technology. To focus on cutting-edge multidisciplinary and frontier areas of engineering and technology as well as innovation-based research, a strong and continuous financial support from alumni, faculty members, students and all well-wishers is the need of the hour. All the stakeholders of the Institute have a major role in building a corpus fund to support various teaching and research infrastructures, and other allied facilities for the welfare of students. NIT Raipur appeals to all alumni, faculty members, students, and well-wishers for their contribution to the NIT Raipur Donation Fund. **The financial donation is exempted under section 80G (5) (vi) of the Income Tax, 1961 Vide IT Order Number ITBA/EXM/S/80G/2019-20/1015830613(1) dated 29/04/2019.**

### How to Contribute:



The payment may be made either online (<https://www.eduqfix.com/OnlineForms/nitrdfform/add>) or directly into the bank account of “NIT Raipur Donation Fund”.

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