



2023-24 (Vol. II)

Exhibit

RAAJDHANI ENGINEERING COLLEGE
BHUBANESWAR



We extend our heartiest greetings to all the students and staff of Raajdhani Engineering College (REC), Bhubaneswar for bringing out the new Edition of the Quarterly News Magazine “Exhibit” which is a reflection of feats, accomplishments and relentless endeavour of the institution in every realm of education. In a world where the social fabric has been riddled with a slew of ethical conundrums and humanity has allowed for the proliferation of sheer materialism and individual growth, REC functions as a community where we realize the aim of education can never be exclusively academic and thus aim is to create an atmosphere of moral incandescence in the learning process. Our endeavour is to equip our students with life skills to face the real world it planning, organizing, and deciding with challenges confidently. We ensure that the values of hard work and efficiency are used as ideological weapons to train our students to face a world replete with stereotypical beliefs and discrimination. We are proud to not only impart quality education but also nurture independent thinkers, who can serve as torchbearers to ignite many more minds and lead the country in the path of development. To channelize the creative talent of our students and teachers, we have come up with the college newsletters “Exhibit” It will serve as a catalyst to give fruit on to the ideas and creativity. Congratulations to the members of Editorial Board, and all the stakeholders of REC, who extended their ungrudging support to us in giving a facelift to this quarterly news magazine. Any constructive suggestion for further improvement of the magazine would be highly appreciated.

Happy Reading!!!

Prof. Pujalin Rout
Editor

EVOLUTION OF THE JOB MARKET: HOW “EXPERTISE” REPLACED “EXPERIENCE”

The dynamics of the job market have been changing since the concept of “Employment” dawned upon humanity. The structure, requirements, qualifications, and skill sets required vary according to the position as well as the industry we wish to perform. But, if we consider the job market a decade ago and compare it with the current job scenario, lines can be drawn.

Employers previously needed people to possess on-paper experience rather than practical knowledge of the subject matter. The current market wants people to concentrate on building skills that could prove useful in their job position. It was high time for employers and employees to know that practical experience beats theoretical experience in most fields falling under the organized employment sector.

You might think “How does practical experience beat theoretical experience?” Well, this is where everything boils down to. You might end up shooting yourself if you hold a gun and do not know where to fire it. Knowledge in itself does not accomplish anything; channelling your knowledge is what yields your results. If you do not use your knowledge practically, how can you prove that it is relevant and not a big fuss created by scientists or writers to throw you off-guard?

Knowing something and experiencing it are two different things in totality. The line between them is so thick that a truck kept horizontally on it cannot join the two ends. Practicality is more about implementation than it is about knowing. When you implement something, you find out whether the knowledge you have is relevant or not. However, communication skills are equally important to convey why an employer should choose you over your competitors.

The ability to communicate each emotion in depth makes humans the superior organism in the animal kingdom. Make sure to build your communication skills. Talent unrecognized is no talent at all. So, to voice your knowledge, you need to do justice to the depth of the subject. A good communicator bags employment opportunities better than someone with a lot of knowledge but no words to explain it.

Sritam Kumar Jena
(Editor-in-chief)

WORKSHOPS AND INTEGRATIONS

Ultratech workshop on Cement

An expert talk was organized as a collaboration between Ultratech Cement and REC. Dr. P.K. Acharya was the chief presenter and initiator of the ceremony. This seminar was conducted on “Enhancement of Efficiency of Cement Composites Using Different Grades of Materials and Spatial Variation Technology”. After completion of the presentation, Dr. S.K. Behera, HOD of Civil Engineering department shared his insightful vision on spatial technology and cement production. Asst. Prof. Shahrukh Mallick also presented his views regarding the same. This meeting was attended by our principal and various faculty from different disciplines.



INDUSTRIAL VISIT

Industrial Visit to Parle Biscuit Factory, Patia

Our students, under the supervision of Asst. Prof. Liliya Priyadarsini Ray visited the Parle Manufacturing Unit at Chandaka Industrial Estate, Patia, Bhubaneswar on 14th March, 2024. It aimed at teaching the practicality of machine operations to mechanical engineering students of the Diploma batch and also gave them an insight into the production process. They were welcomed by Mr. Manoj Kumar Das, the coordinator of the manufacturing unit, who guided the students through various processes.



Bhubaneswar, Odisha, India
Near Mancheswar Railway Station, Mancheswar Railway Colony, Bhubaneswar, Odisha 751017, India
Lat 20.334802°
Long 85.850937°
14/03/24 01:55 PM GMT +05:30



Bhubaneswar, Odisha, India
9R24+XJ5, Chandaka Industrial Estate, Infocity, Chandrasekharpur, Bhubaneswar, Odisha 751024, India
Lat 20.352451°
Long 85.80674°
14/03/24 02:51 PM GMT +05:30

ODISIC 2024 TEAM PRESENTATION

ODISIC 2024 opened at Trident Academy of Technology, Bhubaneswar with the opportunities for diploma students to present innovative student project demonstrations. It was a joint initiative by TAT and Ultratech to support students of different disciplines to come up with solutions to current industrial problems. A team led by Dr. Dattatreya Tripathy from REC presented their project on “Smart City and Ecosystem”. It was appreciated by the guests and opened up a whole new spectrum of co-existence between human and nature.



REC FAMILY MEMBERS: OUR PRIDE

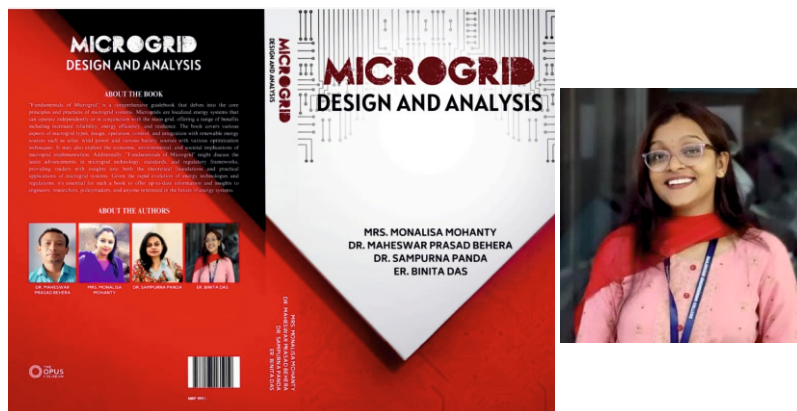
Prof. (Dr.) Alok's Mechanical Marvel

Honorable principal of our college, Prof. (Dr.) Alok Kumar Mohapatra and his team of professional mechanical engineers designed a Smart mechanized painting roller for wall painting. Dr. Alok was granted the patent on 28th March, 2024. This a marvel in mechanical engineering as well as automation technology. Wall painting has become simpler now. Using technology for art innovation is like combining the best of both worlds.



Binita Madam's book on Microgrid Analysis

Asst. Professor Binita Das, one of the key faculty members in Electrical Department of Raajdhani Engineering College has brought pride to us by publishing a book on “Microgrid Design and Analysis”. She has co-authored this book with senior faculty members of various other esteemed institutions of Bhubaneswar. The book is available for sale on eCommerce platforms and students will be hugely benefitted by this book.



Prof. Samarpika's Gold Medalist

An esteemed member of our REC family, Prof. Samarpika Parida has recently obtained her Masters in Technology (M. Tech) Degree from Biju Pattnaik University of Technology (BPUT). She received her Gold Medal from the Honorable Vice-Chancellor of BPUT, Prof. (Dr.) A.K. Rath. This is a tremendous achievement. Only an ideal student can become an ideal teacher, and Prof. Samarpita is a perfect example of the fact. We are proud to have her as one of our family members.



Prof. Rudra's Exceptional GATE Score

Prof. Rudra Pratap Jena, a dedicated Mathematical genius of our REC family cracked GATE-2024 with an All India Rank of 676. It is a great achievement for us. This is highly commendable. He is planning to join a reputed Indian Institute of Technology to pursue his doctorate in Mathematics, and his thesis will be aimed at the number system implementation in Technological evolution. We wish him all the best for his future and extend our warm regards.

Your GATE 2024 Result [MA]

Name

RUDRA PRATAP JENA

Registration Number

MA24S46410126

Gender

Male

Parent's/Guardian's name

RABINDRA JENA

Date of Birth (YYYY-MM-DD)

1998-07-18

Examination Paper

Mathematics (MA)



Photograph

A handwritten signature in black ink that reads "Rudra Pratap Jena".

Signature

Marks out of 100#

All India Rank in this test paper

646

Qualifying Marks##

25

22.5

16.6

General

OBC-NCL/EWS

SC/ST/PwD

GATE Score

442

#Normalized marks in case of multisession papers (CE and CS).

##A candidate is considered qualified if the marks secured are greater than or equal to the qualifying marks mentioned for the category, for which a valid category certificate, if applicable, must be produced along with the Score Card.

[FAQ for GATE Score](#)

CLOSE

Prof. Amaresh's 'Er. Muralidhar Satapathy' Award

The pride of our family, Prof. Amaresh Tripathy was felicitated with 'Er. Muralidhar Satapathy' award by Institution of Engineers (India). He received the award from Prof. (Dr.) Amiya K. Rath, Honorable Vice Chancellor, Biju Pattnaik University of Technology, Rourkela. It is a lifetime achievement award in the field of Civil engineering. We are proud to have such a member in our family. He has achieved it with great efforts and resilience in the face of challenges.



Prof. Pradyumna Mallick's Research

Prof. Pradyumna Mallick, a dynamic faculty of EE & EEE department of our esteemed institution has co-authored a paper on "DIAR approach for Partial Shading Losses Minimization in Assymetrical PV Arrays". It is a matter of great honour that it was published by IEEE Access, a leading research paper publisher. He has achieved this milestone with faculty members and researchers of other esteemed institutions, both nationally and internationally.

- [36] D. S. Pillai, N. Rajasekar, J. P. Ram, and V. K. Chinnaiyan, "Design and testing of two phase array reconfiguration procedure for maximizing power in solar PV systems under partial shade conditions (PSC)," *Energy Convers. Manag.*, vol. 178, pp. 92–110, Dec. 2018.
- [37] R. D. A. Raj and K. A. Naik, "Optimal reconfiguration of PV array based on digital image encryption algorithm: A comprehensive simulation and experimental investigation," *Energy Convers. Manag.*, vol. 261, Jun. 2022, Art. no. 115666.
- [38] P. R. Satpathy, R. Sharma, and S. Jena, "A shade dispersion interconnection scheme for partially shaded modules in a solar PV array network," *Energy*, vol. 139, pp. 350–365, Nov. 2017.
- [39] P. R. Satpathy and R. Sharma, "Power and mismatch losses mitigation by a fixed electrical reconfiguration technique for partially shaded photovoltaic arrays," *Energy Convers. Manag.*, vol. 192, pp. 52–70, Jul. 2019.
- [40] R. D. A. Raj and K. A. Naik, "A generalized Heron map-based solar PV array reconfiguration technique for power augmentation and mismatch mitigation," *IETE J. Res.*, pp. 1–19, Mar. 2022.



interests include solar PV systems, microgrid, and smart grids.

PRADYUMNA MALICK received the B.Tech. degree in electrical engineering and the M.Tech. degree in power system engineering, in 2012 and 2015, respectively. He is currently pursuing the Ph.D. degree with Siksha 'O' Anusandhan Deemed to be University, Bhubaneswar, India. He is also a part-time Research Scholar with Siksha 'O' Anusandhan Deemed to be University. He is an Assistant Professor with the Rajdhani Engineering College, Bhubaneswar. His research



RENU SHARMA (Senior Member, IEEE) received the master's degree in electrical engineering from Jadavpur University, in 2006, and the Ph.D. degree in electrical engineering from Siksha 'O' Anusandhan Deemed to be University, Bhubaneswar, India, in 2014. She has around 20 years of leading impactful technical, professional, and educational experience. Currently, she is a Professor and the Head of the Department of Electrical Engineering, SOA Deemed to be University. She has published around 80 international journals and conference papers. Her research interests include smart grids, soft computing, solar photovoltaic systems, power system scheduling, evolutionary algorithms, and wireless sensor networks. She is a Life Member of IE (India), ISTE, and ISSE, a member of IET, and the Chair of WIE IEEE Bhubaneswar Sub Section. She was the General Chair of IEEE ODICON 2021, flagship conference IEEE WIECON-BCE 2020, and Springer conference GTSCS-2020 and IEPCC-2019. She is a Guest Editor of Special Issue in *International Journal of Power Electronics and International Journal of Innovative Computing and Applications and Interscience*.



PRIYA RANJAN SATPATHY received the Ph.D. degree in solar photovoltaic power system (electrical engineering) from Siksha 'O' Anusandhan Deemed to be University, India, under fellowship by CSIR, Government of India, in 2022. He is currently a Research Associate with the Department of Electrical and Electronics Engineering (EEE), Chaitanya Bharati Institute of Technology (CBIT), Hyderabad, India, under a project supported by Najran University, Saudi Arabia. He was with the Council of Scientific and Industrial Research (CSIR), as a Senior Research Fellow, from 2021 to 2022. He has depth knowledge on different PV system software, including PVSyst, PVSOL, Sketchup, Heliocscope, and AutoCAD. He has published two Indian patents and more than 40 international journals and conferences. His research interests include solar power systems, PV array efficiency improvement and fault reduction, maximum power point tracking, and PV system design and installation (off-grid and on-grid). He has reviewed more than 150 papers till date. He has been serving as an Associate Editor for Taylor and Francis and a Reviewer for many international conferences and journals, such as IEEE, Elsevier, IET, Wiley, Springer, Frontiers, Taylor and Francis, and Hindawi.



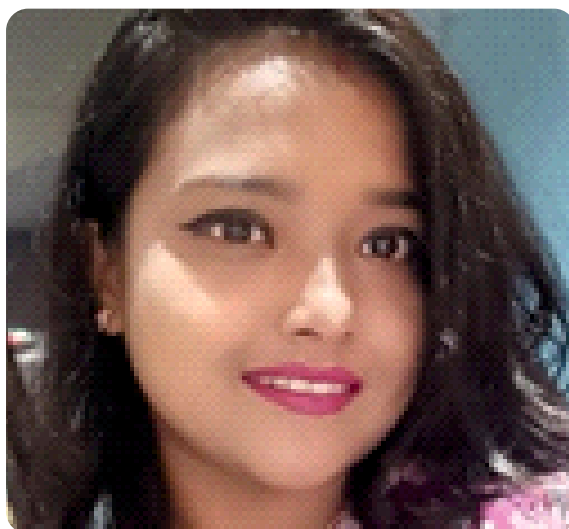
SUDHAKAR BABU THANIKANTI (Senior Member, IEEE) received the B.Tech. degree from Jawaharlal Nehru Technological University, Ananthapur, India, in 2009, the M.Tech. degree in power electronics and industrial drives from Anna University, Chennai, India, in 2011, and the Ph.D. degree from VIT University, Vellore, India, in 2017. He has completed Postdoctoral Research Fellowship with the Department of Electrical Power Engineering, Institute of Power Engineering, University Tenaga Nasional (UNITEN), Malaysia. He was with the Department of Electrical and Electronic Engineering Science, University of Johannesburg, as a Senior Research Associate. Currently, he is an Associate Professor with the Department of Electrical and Electronics Engineering, Chaitanya Bharati Institute of Technology, Hyderabad. He has published more than 140 research articles in various renowned international journals. His research interests include design and implementation of solar PV systems, renewable energy resources, power management for hybrid energy systems, storage systems, fuel cell technologies, electric vehicle, and smart grids. He has been acting as an Editorial Board Member and a Reviewer of various reputed journals, such as the IEEE, IEEE Access, IET, Elsevier, and Taylor and Francis.



NNAMDI I. NWULU (Senior Member, IEEE) is currently a Full Professor with the Department of Electrical and Electronic Engineering Science, University of Johannesburg, and the Director of the Centre for Cyber Physical Food, Energy and Water Systems (CCP-FEWS). His research interests include the application of digital technologies, mathematical optimization techniques, and machine learning algorithms in food, energy, and water systems. He is a Professional Engineer registered with the Engineering Council of South Africa (ECSA), a Senior Member of the South African Institute of Electrical Engineers (SISA/IEE), and a Y-Rated Researcher by the National Research Foundation of South Africa. He is the Editor-in-Chief of the *Journal of Digital Food Energy and Water Systems* (JDFEWS) and an Associate Editor of *IET Renewable Power Generation* (IET-RPG) and *African Journal of Science, Technology, Innovation and Development* (AJSTID).

Prof. (Dr.) Arpita's Groundbreaking Post-Doc Proposal

Dr. Arpita Singha, an esteemed member of REC family has been invited to join Indian Institute for Plasma Research under Government of India to work on her ground-breaking proposal in Physics. Her post doctorate proposal “Study of Electrochemical Processes using Plasma Electrolysis” will deal with research revolving around the usage of Hydrogen and its ions. Plasma is the 4th state of matter and is very potent for research. The minimal research gives a free-playing area to eminent researchers like Prof. (Dr.) Arpita Singha. We are proud to have such a member in our family for so long



RAAJDHANI ENGINEERING COLLEGE

Approved by AICTE, New Delhi & Affiliated to BPUT, Odisha, Accredited by NAAC,
Approved by Dept. of Science & Technology as SIRO, The Institute of Engineers, India

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