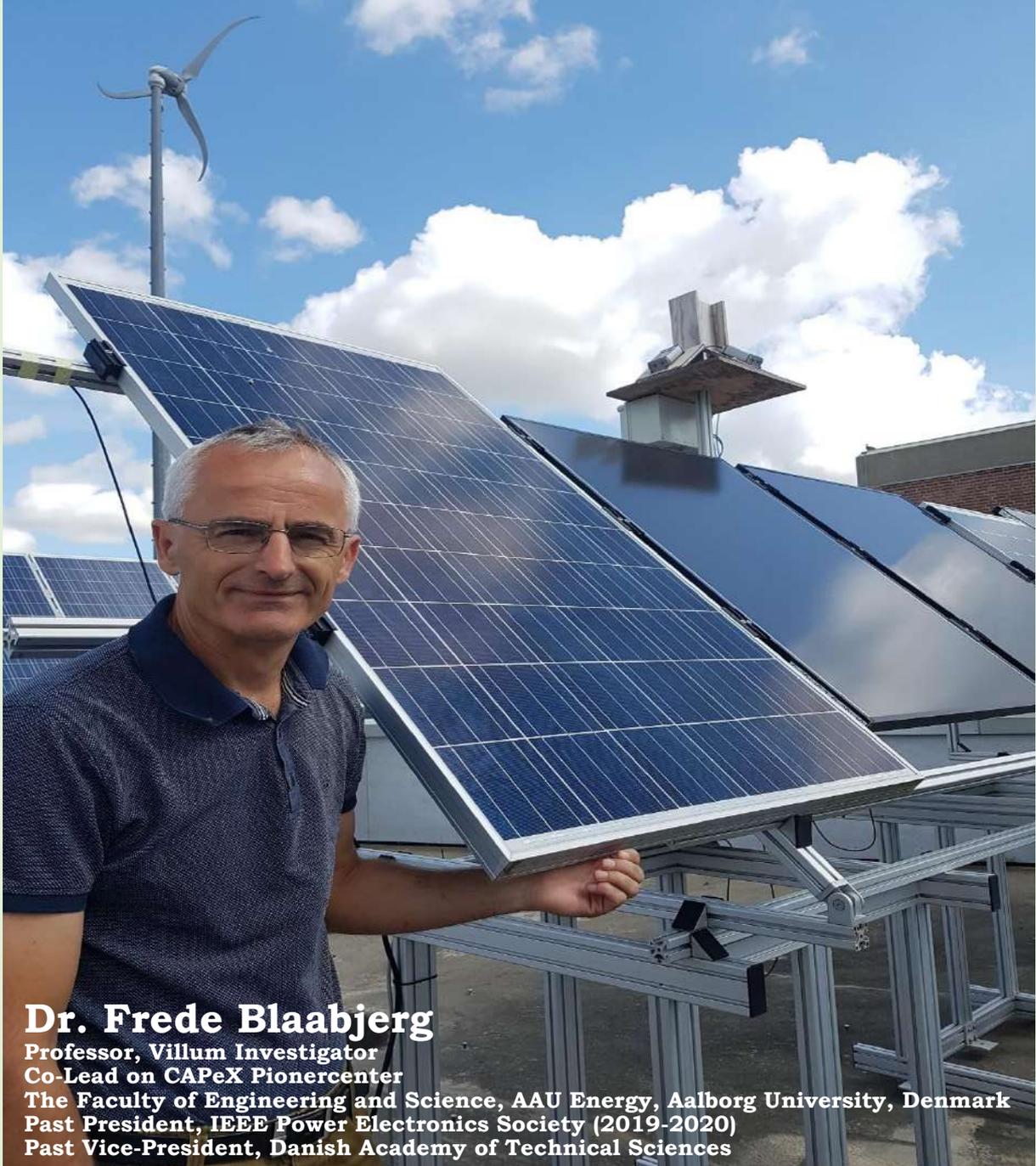


January 2023
Vol No. 1

अनुसंधान

(KIET Research Magazine)



Dr. Frede Blaabjerg

Professor, Villum Investigator
Co-Lead on CAPEX Pionercenter

The Faculty of Engineering and Science, AAU Energy, Aalborg University, Denmark

Past President, IEEE Power Electronics Society (2019-2020)

Past Vice-President, Danish Academy of Technical Sciences

Research and Development

KIET Group of Institutions

Delhi-NCR, Ghaziabad, Uttar Pradesh, India-201206

*KIET School of Engineering & Technology * KIET School of Management

* KIET School of Computer Application * KIET School of Pharmacy

DELHI-NCR, MEERUT ROAD, GHAZIABAD-201206 (U.P.)

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KIET – A GLANCE



Overview

KIET Group of Institutions is recognized as one of the best engineering colleges in Delhi-NCR, founded by the members of Krishna Charitable Society in 1998 with a modest number of 180 students. The KIET Group of Institutions has now become a pioneer in the technical education domain with a strength of 6500+ students.

With a rich alumni base of 19000+ students spread in all the nooks and corners of the world, the KIET Group of Institutions is moving efficiently towards its vision of shaping young minds with skill-oriented & value-based education as these alumni serve the dual purpose of mentoring the present students, as well as opening new doors for them.

The institute has gained a distinct image as an outstanding educational colossal among the technical institutions of Uttar Pradesh due to its inclination toward innovative and skill-based education. Its consistent belief in 'Achieving High' is aptly reflected in its academics, extracurricular activities, and placements. The success of its belief is brought out in the plethora of Education Excellence Awards bagged by the institute. The institute has been accredited by NAAC with Grade 'A+' and its programs (CSE, ECE, EEE, IT, ME, CE, MCA, MBA and Pharmacy) are NBA accredited.

Honors for
**Excellent
Performance**

Accredited by
NAAC with Grade "A+"

SIRO Certification
by DSIR, Delhi

ARIA
3rd Rank
"Private Institutions (Technical)"
In India by ARIA 2021 Ranking

**Creating
Benchmarks**

Success
Consistency
Passion

1800 313 0056

nirf NATIONAL
INSTITUTIONAL
RANKING
FRAMEWORK | Engineering Rank - 176
Pharmacy Rank Band (76-100)

Editorial Board

Chief Patron

Dr. A Garg
Director, KIET Group of Institutions

Patron

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Joint Director, KIET Group of Institutions

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Associate Editors

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Dr. Himanshu Chaudhary, Assistant Professor (ECE)

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Assistant Dean, Research Quality Assurance

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Assistant Prof. (ECE)

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Prof. & HoD (ECE)

Vice – Chairman

Dr. Vipin Kumar
Prof. & Addl. HoD (AS)

Member-Secretary

Dr. Brijesh Singh
Associate Professor (EEE)

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Dr. Amit Gupta, Associate Prof., School of Computer Applications
Dr. Parvin Kr Kaushik, Associate Prof., Electronics and Communication Engineering
Ms. Garima Singh, Assistant Prof., Computer Science, and Information Technology
Ms. Richa Singh, Assistant Prof., Computer Science Engineering (AI and AIML)

CONTENTS

| S.No. | Details | Page No. |
|-------|--|----------|
| 1. | KIET-A Glance | 2 |
| 2. | Editorial Board | 3 |
| 3. | KIET Research & Development Committee | 3 |
| 4. | KIET Collaborative Research and Development Committee | 4 |
| 5. | Departmental Research Committee | 4 |
| 6. | Message from Face of the Cover Page | 6 |
| 7. | Message from Chief Patron | 8 |
| 8. | Message from Patron | 7 |
| 9. | Message from Editor-In-Chief | 9 |
| 10. | Foreword | 10-11 |
| 11. | Overview of the Research and Development | 12 |
| 12. | Glimpse of Month | 13 |
| 13. | Statistics of KIET Research and Development Activities | 14 |
| 14. | Exceptional Research Publications | 15-16 |
| 15. | Patent Published in the Month | 16-17 |
| 16. | Details of Research Incentives | 18-19 |
| 17. | Details of Knowledge Sharing Sessions | 20-21 |
| 18. | Collaborative Research and Development Presentations | 22-23 |
| 19. | Summary of Ph. D. Guidance by KIET Faculty Members | 23 |
| 20. | KIET Research and Development Policies | 24 |
| 21. | Various Research Labs in KIET | 25-26 |
| 22. | Student's Corner | 27 |

Message from the Face of Cover Page



Dear readers,

It is my honour to introduce this research magazine, which is dedicated to explore the current technological requirements of humanity and major societal challenges. As we are facing unprecedented global challenges such as climate change, energy transition, and the COVID-19 pandemic, it is clear that we need to come together and leverage our collective knowledge and expertise to find solutions.

Academic research plays a vital role in addressing these challenges. Through research, we gain a deeper understanding of the problems we face and develop innovative solutions. The research presented in this Magazine will showcase the cutting-edge work being done by our faculty and students at KIET, and it will serve as a valuable resource for those working to find solutions to the challenges of our time.

One of the major challenges that humanity is facing is the need to transition to sustainable energy sources. The research in this Magazine will explore the latest developments in renewable energy, power electronics, and smart grid technology, providing valuable insights into the challenges and opportunities of this transition.

Another critical challenge is the need to build more resilient and sustainable cities. The research in this Magazine will explore the latest developments in urban planning, transportation, and infrastructure, providing valuable insights into the challenges and opportunities of building more liveable and sustainable cities.

In addition to these challenges, we must address many other societal challenges, such as poverty, inequality, and social justice. The research in this Magazine will explore a wide range of topics and provide valuable insights into the challenges and opportunities of building a more just and equitable world.

I extend my blessing and best wishes for the publication of this Magazine and future research at KIET. I am confident that the research presented in this Magazine will continue to push the boundaries of what is possible and will make a valuable contribution to addressing the major societal challenges of our time. I look forward to seeing the impact this research will have on the world, and I am excited to see the continued growth and development of KIET's research programs.

Dr. Frede Blaabjerg

Professor, Villum Investigator

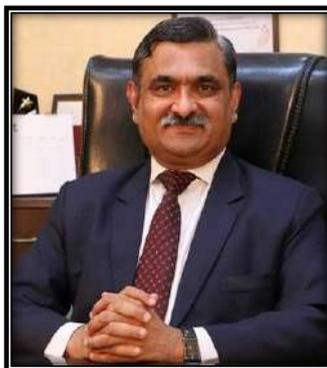
Co-Lead on CAPeX Pionercenter

The Faculty of Engineering and Science, AAU Energy, Aalborg University, Denmark

Past President, IEEE Power Electronics Society (2019-2020)

Past Vice-President, Danish Academy of Technical Sciences

Message from Chief Patron



Dear Members of the Research Community,

As the Director of the KIET Group of Institutions, I am pleased to introduce our latest research endeavours and their possibilities for shaping the future. Our vision is to push the boundaries of knowledge and innovation, and through the tireless efforts of our dedicated researchers, we can achieve this goal.

In the coming months, we will focus on various cutting-edge research topics, including artificial intelligence, biotechnology, and renewable energy. We aim to use these fields to address the most pressing challenges faced by society today, such as climate change, disease, and poverty.

We believe that by fostering an environment of collaboration and open communication, we can make significant progress in these areas. Our researchers will work closely with industry partners, government agencies, and other academic institutions to share their findings and develop new technologies and solutions.

We are excited about our research's possibilities and look forward to sharing our progress with the community. We expect our work to lead to breakthroughs and technologies that will positively impact society, and we are committed to making our research accessible to all who can benefit from it.

Finally, I would like to extend my warmest wishes to all our researchers and partners. Their hard work and dedication make our institute a leading force in the research community, and we are honoured to have you on board. Together, we can achieve remarkable things.

Dr. (Col) A Garg

Director

KIET Group of Institutions

Delhi-NCR, Ghaziabad

Message from Chief Patron



Dear All,

It gives me great pleasure, in my capacity as Joint Director of the KIET Group of Institutions, to introduce this research Magazine that focuses on the work that is now being done at our Institute and how it may have an impact on the future. Our goal is to expand the horizons of both knowledge and innovation, and we are confident that our researchers will be able to accomplish this task.

By encouraging teamwork and open communication, we will be able to make progress in these areas. Our researchers will collaborate with industrial partners, government organisations, and other academic institutions to develop new technologies and solutions, share their findings, and disseminate their findings.

Our studies will ultimately result in scientific discoveries and technological advancements that are beneficial to society, and we intend to share these with anybody who could make use of them.

In closing, please accept my warmest regards for our researchers and partners. We are grateful for all the hard work and dedication you have shown in making our Institute a pioneer in research. Together, we are capable of accomplishing incredible things.

Dr. Manoj Goel

Joint Director KIET

KIET Group of Institutions

Delhi-NCR, Ghaziabad

Message from Editor-In-Chief



Dear Colleagues and Friends,

As Dean of Research and Development KIET, I am honoured to share the latest research and development activities with you. Our dedicated team of researchers, students, and faculties continue to progress significantly in various fields, from basic science to applied technology.

One of our major achievements this year has been the development of a new treatment for a rare genetic disorder. Our team discovered a novel therapeutic approach that has shown promising results in preclinical trials. We are now working to bring this treatment to the clinic and help patients suffering from this debilitating condition. It is a true example of how our research is not just limited to the lab but also can potentially make a real-world impact.

Another area where we have made significant progress is in the field of renewable energy. Our researchers have developed a new type of solar cell that has the potential to increase the efficiency and cost-effectiveness of solar energy significantly. This technology has already attracted the attention of several major companies, and we are currently transferring it to the industry for further development. It not only helps in protecting the environment but also in creating new job opportunities and economic growth. In addition to these specific achievements, KIET has progressed in several other areas. Our researchers have published numerous articles in top-tier journals, presented their work at international conferences, and received numerous grants and awards. It can showcase the quality of our research and our team's dedication and hard work. In addition to our ongoing research activities, we have also launched several new initiatives to support and promote research at our institute. For example, we have established a new mentoring program for junior researchers, which provides them with the guidance and support they need to succeed in their field. We have also created a new seed funding program to support innovative and high-risk research projects that have the potential to make a significant impact. These initiatives help our researchers not just conduct research but also in developing their skills and knowledge.

I would also like to take this opportunity to express my gratitude to our researchers, scientists, engineers, and staff, who have worked tirelessly to make our institute a leader in research and development. Their dedication, passion, and hard work have been instrumental in our achievements, progress, and initiatives. I also want to thank our funding partners, collaborators, and supporters for their ongoing support and contribution.

Lastly, I would like to extend my best wishes and blessings to all of you, your families, and your friends. May the upcoming year be prosperous, happy, and in good health. With our collective efforts, we will be able to continue making a positive impact on the world through our research and development activities.

Dr. Vibhav Kumar Sachan

Dean (Research and Development)

KIET Group of Institutions

Delhi-NCR, Ghaziabad

Foreword



Academic research and development related to the scientific inquiry and experimentation undertaken by colleges, universities, and other higher education institutions. This research and development aim to further knowledge in a certain subject. Natural sciences, social sciences, and humanities are subjects in which academic academics can engage in research. Academic research and development aim to add to the corpus of knowledge and educate the next generation of scholars. Today, academic research collaboration may be done by bringing scholars from many institutions, fields, and nations to collaborate towards a single aim. Collaboration can take numerous forms, including co-authoring research articles, submitting joint funding applications, and conducting interdisciplinary research initiatives. Collaboration may give researchers access to new resources, such as specialized equipment or data sets, and the opportunity to share knowledge and get fresh views on a research subject. Collaboration also boosts the impact and exposure of research by enabling academics to reach new audiences and get acknowledgement for their work. In this sequence, research magazines play a significant role in academic research and development by providing a forum for scholars to disseminate their results to a larger audience. These periodicals focus on specialized disciplines of study, such as fundamental engineering, computer science, mathematics, and physics, and publish articles authored by subject matter experts. Technical journals may be an essential source of knowledge for researchers, presenting them with the most recent advancements and trends in their area. These publications can also act as a method for researchers to gain feedback from their peers. These periodicals are also excellent resources for students and scholars interested in recent advancements in their respective fields of study.

According to the above-mentioned factors, the publication "KIET Research Magazine" is being produced. It is envisaged that after reading this Magazine, a student or researcher will be aware of current research in his/her relevant subject and be able to identify a suitable partner if necessary. Most of the Magazine's material is drawn from KIET's research and development efforts.

The publication has endeavoured to provide as many study results as feasible while prioritizing reporting clarity. This publication is to report on KIET's research and endeavours, therefore increasing the global exposure of KIET's work. We are grateful to our colleagues for allowing us to present the mentioned research activity and their results in this publication. As appropriate, the names of each of these fellows are included in various sections of the Magazine.

We are deeply grateful to the Institute's Management, Director, Joint Director, Dean R&D, Heads, and all the associates for their support, blessings, and cooperation in publishing this multidisciplinary research magazine "अनुसंधान".

Dr. Brijesh Singh

Editor

KIET Group of Institutions

Delhi-NCR, Ghaziabad

Foreword



“Sharing knowledge is a charity of knowledge that constitutes the ways of a beautiful life” – Ehsan Sehgal

Enhance the beauty of the research domain, this KIET research magazine may play a vital role through the knowledge sharing of different domains, which may enhance the quality of research at inter and intra-departmental scales in the KIET Group of institutions. The awareness and acknowledgment of the outer niche may enhance the collaborative research among the various disciplines like environment, sustainability, energy, chemistry, modelling, mechanical, management, pharmacy, etc. This initiation is also likely to give positive outcomes in collaborative research publications, joint project submissions, joint work on patents, technical bulletins etc., and holistic growth in the social, economic, and ecological pillars of the society may be achieved. It gives us great pleasure to introduce this supplement dedicated to research upgrowth, as filling such gaps may lead to a paradigm shift in research networking and upliftment in the research domain.

We heartily thank our management, the Director, the Joint Director, the Dean R&D, and the team for their unconditional guidance and leadership. Moreover, a very warm thanks to the entire KIET fraternity for their kind support.

Dr. Minakshi Karwal

Associate Editor

KIET Group of Institutions

Delhi-NCR, Ghaziabad



“Research is something that everyone can do, and everyone ought to do. It is simply collecting information and thinking systematically about it” - Raewyn Connell

The KIET research magazine contributes significantly to inspiring young researchers to augment knowledge and innovation. The magazine also disseminates awareness about technical innovation in the field of science, technology, and management to faculty and students.

The highlights of the notable research activities conducted by our institute over the past month are included in this magazine issue. This would help the research activities to get a better reach and new dimensions in terms of collaborative publications, research articles, project proposal submissions, patent filing, etc.

To achieve the goal of the KIET Institute to observe the year 2023 as an innovation and start-up year, we are confident that KIET Research Magazine will continue to contribute significantly to the inner and outer specialization for greater scientific research and innovation.

We would like to extend our deepest gratitude to the Research and Development Team of the KIET Group of Institutions for their tireless work in ensuring the success of all research initiatives.

We are extremely grateful to the leadership of the KIET Group of Institutions, the Director, the Joint Director, the Dean of R&D, and the entire KIET family for their generous support and leadership over the years.

Dr. Himanshu Chaudhary

Associate Editor

KIET Group of Institutions

Delhi-NCR, Ghaziabad

Overview of the Research and Development

Rapid growth in scientific knowledge is an indication of the quest for discovery and has a substantial impact on economic and societal development. Science, technology, and innovation are often initiated in an Institution's research environment. Research and developmental activities create and disseminate new knowledge in different fields, promote innovation, and motivate better learning and teaching among faculty members and students at our Institute, as these are often incorporated into the courses. Research is the foundation of knowledge that brings new energy builds state-of-the-art facilities, promotes research publications, develops collaborations, and becomes part of an active community that shares common objectives. Moreover, there is good evidence that research supports and improves teaching and helps to build excellence in this dimension as well. Research can have salutary effects on faculty members, on the nature of their teaching, and the undergraduate and postgraduate students.

Evidence is accumulating that students do benefit in significant ways from having researchers as instructors if, the institution balances resources spent, and rewards assigned between research and teaching. This positive view, which has been consistently detected in recent studies, sees the benefits of 'research-led teaching.' In this approach, the experience of the researcher is integrated into teaching.

Vision

To achieve excellence in research and create an outstanding climate of support for researchers, broadly enabling research advances to meet National and International needs.

Mission

- ❖ To motivate faculty members to concentrate on research-related activities, in addition to teaching, to publish research articles in reputed journals.
- ❖ To pursue efforts to write books and monographs for publication by – International and National publishers of repute.
- ❖ To evince interest among the faculty members so that they take efforts to establish collaborative research projects with their counterparts in reputed National and International Universities.
- ❖ To encourage faculty members to submit proposals and secure funded research projects from various funding agencies in India and Abroad.
- ❖ To undertake consultancy projects sponsored by the Government as well as the Private, Industrial, and other organizations.

Contact

Office of Dean (R&D)

Department of Electronics & Communication Engineering

KIET Group of Institutions, Delhi-NCR, Ghaziabad, Uttar Pradesh, India-201206

e-mail: dean_rnd_office@kiet.edu, Contact No. +919718907912 (O)

Glimpses of Month



1. Inaugural of World space week 2022 by Prof. (Dr.) Brahmjit Singh, Dean of Planning and Development, NIT Kurukshetra and Dr. A Garg, Director, KIET Group of Institutions.
2. Discussion of Dr. S.A. Kannan, Senior Scientist, IRS, ISRO, with Director, Joint Director, and Deans of KIET Group of Institutions on design and development of Nano Satellite.
3. Welcome of Dr. Vikas Kumar Saxena, Distinguished Scientist (DS) & Former Director, DMRL / DRDO, Hyderabad, by Dr. A Garg, Director, KIET Group of Institutions.
4. Visit of school students to Space exhibition event organized at KIET College during Space Week.
5. Discussion of Space technology team with Shri A. K. Sisodia, Ex. Group Director, SAC ISRO, Ahmedabad, about the designed prototype of Nanosatellite.
6. Welcome of Shri A C Mathur, Retd. Group, Director SAC/ISRO, Ahmedabad by Dr. Vibhav Kr Sachan, Dean R&D, KIET Group of Institutions, during Space Week.
7. Visit of Dr. S.A. Kannan Senior Scientist, IRS, ISRO, to the different centres of excellence with team R&D.

Statistics of KIET Research and Development Activities

Rankings & Accreditations

- NAAC - Grade 'A+' (Cycle 2 Assessment) - Accredited for 5 years till 03 Jan 2027.
- NIRF 2022 (Pharmacy – Rank 97 & Engineering - Rank 187).
- ARIIA 2021 – 3rd Rank in the category “Private Institutions (Technical)”.
- QS-IGAUGE - ‘Diamond’ College Rating (till Feb 2024) & ‘Institution of Happiness’ Award.
- Innovation Hub, AKTU – Hon’ble VC AKTU Appointed KIET as Nodal Regional Centre
- NBA Accreditation - All eligible programs are NBA accredited.
- KIET Group of Institutions, Delhi-NCR, Ghaziabad (UP) recognized by the Scientific and Industrial Research Organization (SIROs) under Department of Scientific and Industrial Research (DSIR), Ministry of Science and Technology, Government of India. (Till 31 Mar 2025)

| | | | |
|---|--|---|---|
|  <p>सूचना का अधिकार RIGHT TO INFORMATION</p> | <p>दूरभाष/TEL : 26962819, 26567373 (EPABX) : 26565684, 26562133 : 26565687, 26562144 : 26562134, 26562122 फैक्स/FAX : 26960829, 26529745 Website : http://www.dsir.gov.in (आर्डीएचओ 9001:2008 प्रमाणित विभाग) (AN ISO 9001:2008 CERTIFIED DEPARTMENT)</p> |  <p>सत्यमेव जयते</p> | <p>भारत सरकार विज्ञान और प्रौद्योगिकी मंत्रालय पैज्ञानिक और औद्योगिक अनुसंधान विभाग टेक्नोलॉजी भवन, नया महरौली मार्ग, नई दिल्ली - 110016 GOVERNMENT OF INDIA MINISTRY OF SCIENCE AND TECHNOLOGY Department of Scientific and Industrial Research Technology Bhavan, New Mehrauli Road, New Delhi - 110016</p> |
|---|--|---|---|

F.No. 11/791/2018-TU-V Date: 28th April 2022

The Vice Chairman
Krishna Charitable Society,
13 KM Stone, Ghaziabad-Meerut Road,
Ghaziabad – 201206, Uttar Pradesh

Subject: Renewal of Recognition of Scientific and Industrial Research Organisations (SIROs).

Dear Sir,

This has reference to your application for renewal of recognition of Krishna Charitable Society, Ghaziabad, Uttar Pradesh as a Scientific and Industrial Research Organisation (SIRO) by the Department of Scientific and Industrial Research under the Scheme on Recognition of Scientific and Industrial Research Organisations (SIROs), 1988.

2. This is to inform you that it has been decided to accord renewal of recognition to Krishna Charitable Society, Ghaziabad, Uttar Pradesh from 01.04.2022 to 31.03.2025. The recognition is subject to terms and conditions mentioned overleaf.

3. Receipt of this letter may kindly be acknowledged.

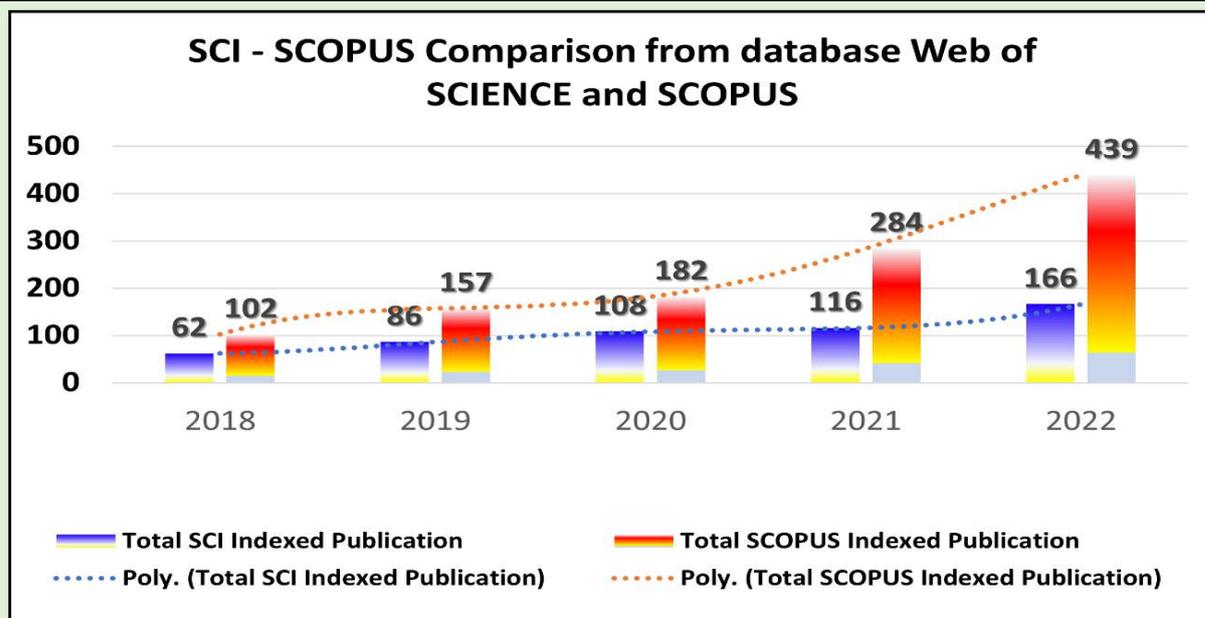
Yours faithfully,

(Dr. P.K. Dutta)
Scientist - 'F'

KIET Research Credentials

Total 538 SCI Research Publications and 1164 Scopus Indexed Research Publications with affiliation of KIET Group of Institutions, Delhi-NCR, Ghaziabad are listed in Web of Science and in Scopus Database.

| Year | Total Number of SCI Indexed Publications | Total Number of SCOPUS Indexed Publications | Total Number of Research Publications |
|--------------|--|---|---------------------------------------|
| 2018 | 62 | 102 | 164 |
| 2019 | 86 | 157 | 243 |
| 2020 | 108 | 182 | 290 |
| 2021 | 116 | 284 | 400 |
| 2022 | 166 | 439 | 605 |
| Total | 538 | 1164 | 1702 |



Exceptional Research Publications in Reputed International Journals by KIET Faculty Members

| S. No. | Faculty Name | Dept. | Title of Research Paper and Name of Journal | IF | Publication Date |
|--------|------------------------|-------|--|-------|------------------|
| 1 | Dr. Shubham Shukla | ECE | Performance optimization of unstructured E-commerce log data for activity and pattern evaluation using web analytics, IET Communications | 1.345 | 04-11-22 |
| 2 | Dr. Shivani Sharma | ECE | Two-Dimensional Van Der Waals Hafnium Disulfide and Zirconium Oxide-Based Micro-Interdigitated Electrodes Transistors, IEEE Transactions on Electron Devices | 3.221 | 18-10-22 |
| 3 | Dr. Nitin Kumar Saxena | EN | Marginal Cost-Based Reactive Power Reinforcement Using Dynamic and Static Compensators, IEEE Journal of Emerging and Selected Topics in Power Electronics | 5.462 | 25-01-22 |
| 4 | Dr. Brijesh Singh | EN | Carbon Trading Analysis and Impacts on Economy in Market-to-Market Coordination with Higher PV Penetration, IEEE Transactions on Industry Applications | 4.079 | 18-08-21 |

Details of Patents Published/Granted Nov-Dec'22

A total of 24 Patents were published in the month of Nov-Dec 2022. 14 Patents were published in the month of Nov, 2022 & 10 Patents were published in the Month of Dec, 2022.

| S. No. | Title of Patent | Dept. | Name of Applicant | Date of Publication |
|--------|---|--------------------------------|---|---------------------|
| 1 | Preparation of nano capsules based on preformed polymers | KSOP | Dr. N. G. Raghavendra Rao | 04-11-2022 |
| 2 | IoT based railway-line breakage detection system | IT/CSIT/CS/ Applied Science/CS | Mr. Saurabh, Mrs. Shivangi Tyagi, Dr. Ajay Kr Agrawal. | 04-11-2022 |
| 3 | Blockchain model using performance analysis for supply chain management in enhancing for sustainable | ECE | Dr. Pravesh | 04-11-2022 |
| 4 | Revisiting digital transformation in India's banking | CSE | Ms. Sanchita Mitra, Chetna, Neha Shukla, Aurag Mishra, Harsh Khatter | 11-11-2022 |
| 5 | IoT system for monitoring gateways, using lora and lorawan | MCA | Dr. Vidushi | 11-11-2022 |
| 6 | A tongue-driven vehicle with vehicle tracking technology and flexible speed regulation for people with disabilities | ECE | Dr. Praveen Kumar | 18-11-2022 |
| 7 | System and method for plausible disease based on ai-enabled wearable devices | CS | Mr. Anurag Mishra, Mr. Harsh Khatter | 18-11-2022 |
| 8 | Real-time automated diagnosis & consultation system | CS | Mr. Ankit Yadav, Mr. Ayush Srivastava Mr. Harsh Khatter | 25-11-2022 |
| 9 | Improved insurance and risk management using data analytics | CS | Mr. Anurag Mishra | 25-11-2022 |
| 10 | Health buddy: a health care website with ai chatbot | CS/CSIT | Mr. Akash Goel, Harsh, Shubham, Satyam, Prince, Sreesh, Pawan Kumar, Praveer | 25-11-2022 |
| 11 | Modulation of drug release from ph-responsive soft nanocomposites | KSOP | Dr. N. G. Raghavendra Rao | 25-11-2022 |
| 12 | Modern voice recognition techniques based online quizzing system for blind people | CS | Dr. Vikas Kamra, Alankrita Singh, Priyanshi Sharma, Ritu Yadav, Anurag Mishra | 25-11-2022 |

| S. No. | Title of Patent | Dept. | Name of Applicant | Date of Publication |
|--------|--|-------------------|---|---------------------|
| 14 | Assistive chatbot for railway ticket reservation system thereof | CS | Mr. Akash Goel, Lokesh Verma, Khushi Chandelia, Kritika Dubey | 25-11-2022 |
| 15 | Stock overflow | CS | Mr. Pranjal Rai, Nishant Jawla, Satyam Sharma, Anurag Mishra | 02-12-2022 |
| 16 | Advance system and analyzer for student activities | CS/CS/CS/CS/IT/CS | Mr. Mayank Rai, Anurag Upadhyay, Ayush Kumar Pandey, Arti Sharma, Mr. Saurabh, Dr. Harsh Khatter | 02-12-2022 |
| 17 | Haircut pattern detection using machine learning algorithm to identify deviation | CSE | Dr. Kumar Kaushik | 02-12-2022 |
| 18 | A smart overhead multi-source tank controlling system | EN/ IT | Mr. Ameer Faisal, Dr. Sartaj Ahmad, Dr. Mohammad Shariz Ansari, Dr. Varun Sharma, Mr. Saurabh Sharma | 09-12-2022 |
| 19 | An Iot-based smart system for hygiene monitoring in real time | CSIT | Ms. Khushboo Pandey | 09-12-2022 |
| 20 | Enhanced portable concentrated solar cooker | ECE | Dr. Akash Kumar Bhoi | 16-12-2022 |
| 21 | Real time attentiveness detection in online meeting platforms | CS/IT | Ms. Priyanshi Srivastava, Vidushi Bhatnagar, Rishab Jain, Arti Sharma, Saurabh, Harsh Vardhan, Dr. Ajay Kr. Shrivastava | 16-12-2022 |
| 22 | A system for asset management on the rail network with the help of ai and ml | CSIT | Ms. Khusboo Pandey | 16-12-2022 |
| 23 | A system and method for disaster management through visual geographical monitoring | CSE | Ms. Swati Sharma | 16-12-2022 |
| 24 | Mental health analysis | CS | Ms. Vanshika Namdev, Vedant Panday, Shivans Kumar Yadav, Neha Shukla, Anurag Mishra, Harsh Khatter | 16-12-2022 |

Details of Research Incentives

| S. No. | Name of Faculty | Designation | Deptt. | Title of Paper and Name of Journal | Impact Factor | Benefits/ Incentives | Index in Journal |
|--------|------------------------|--------------|--------|---|---------------|----------------------|------------------|
| 1 | Mr. Masood Rizvi | Assoc. Prof. | EN | Optimal Energy Management in a microgrid under uncertainties using novel hybrid metaheuristic algorithm, International Journal of Sustainable Computing | 4.923 | 11000 | SCIE |
| 2 | Dr. Parul Grover | Assoc. Prof. | KSOP | LC and LC-MS/MS studies for the identification and characterization of degradation products of d-tubocurarine chloride, Journal of Pharmaceutical and Biomedical Analysis | 3.571 | 11000 | SCIE |
| 3 | Dr. Alankar Srivastava | Assoc. Prof. | KSOP | Characteristics, biological Activities, Synthesis and methods for the determination of Brexpiprazole in Different Matrices, Journal of Current Pharmaceutical Analysis | 0.743 | 8000 | SCIE |
| 4 | Dr. Varun Gupta | Assoc. Prof. | EN | Performance Evaluation of Various Pre-processing Techniques for R-Peak Detection in ECG Signal, IETE Journal of Research | 1.877 | 11000 | SCIE |
| 5 | Dr. Nitin Kumar Saxena | Asst. Prof | EN | "Review of Excitation Techniques for Squirrel Cage Induction Generator Based Micro Grid using Dynamic Compensation", Electric Power Components and Systems | 1.276 | 11000 | SCIE |

| S. No. | Name of Faculty | Designation | Deptt. | Title of Paper and Name of Journal | Impact Factor | Benefits/ Incentives | Index in Journal |
|--------|-------------------|-------------|--------|---|---------------|----------------------|------------------|
| 7 | Mr. Harsh Khatter | Asst. Prof. | CS | Analysis of the S-ANFIS Algorithm for the Detection of Blood infections Using Hybrid Computing, Journal Electronics | 2.69 | 11000 | SCIE |

Reimbursement of Conference Registration Fee

| S. No. | Name of Faculty | Designation | Dept. | Name of Conference | Title of Paper | Benefits/ Incentives | Published By |
|--------|---------------------|--------------|-------|--------------------------|---|----------------------|--------------|
| 1 | Dr. Chirag Arora | Assoc. Prof. | ECE | International Conference | Design of metamaterial-Based Multilayer Dual Band Circularly Polarized Microstrip Patch Antenna | 7000 | IEEE |
| 2 | Dr. Shubham Shukla | Asst. Prof. | ECE | International Conference | Dynamics and Control of a Quadrupedal Robot | 3000 | IEEE |
| 3 | Mr. Vivek Kr Pathak | Asst. Prof. | ME | International Conference | Analysis of Performance Evaluation and Issues of Last mile delivery by AHP technique | 6000 | Inderscience |

Book Chapter Publication Incentives

| S. No. | Name of Faculty | Designation | Dept. | Title of Book/ Chapter/ Monograph | Incentive Amount | Name of Publishing House |
|--------|-------------------------|-------------|-------|--|------------------|--------------------------|
| 1 | Mr. Satya Prakash Singh | Asst. Prof. | ECE | "Design and Investigation of PGP SELBOX FinFET with Uniform and Non-Uniform Doping Profile at Sub-7 nm Technology Node in Emerging Electronics and Automation, Lecture Notes in Electrical Engineering | 2000 | Springer |
| 2 | Dr. Hunny | Asst. Prof. | ECE | Factors responsible and phases of speaker recognition system' published by IET in IET Digital Library (International Publisher) | 2000 | IET |

Details of Knowledge Sharing Sessions

| S. No. | Dept. | Name of Presenter | Topic of Presentation | Type of Research work Individual/ Collaborative | Expected Outcome (Publication /Projects/ IPR etc) | Date of Presentation |
|--------|-------|---|---|---|---|----------------------|
| 1. | AS | Dr. Lalita Devi | Self-focusing of laser beam in Plasma | Collaborative | Publications | 10-12-2022 |
| 2. | CS | Ms. Anshula Gupta | Data Science algorithms | Individual | Research Paper | 10-12-2022 |
| 3. | CS | Ms. Arushi Gupta | CIP in classification | Individual | Research Paper | 10-12-2022 |
| 4. | CS | Mr. Pardeep Tyagi | Feature Extraction Techniques | Individual | Research Paper | 10-12-2022 |
| 5. | CSIT | Ms. Jaya Sharma | Fruit Recognition System Using CNN | Individual | Publication | 10-12-2022 |
| 6. | CSIT | Ms. Silki Kharaliya | Wireless Sensor Network | Individual | Publications | 10-12-2022 |
| 7. | CSE | Mr. Gaurav Parashar | Machine Learning in Healthcare | Individual | Research Paper | 10-12-2022 |
| 8. | CSE | Mr. Vipin Deval | Mobile Smart-Contract Lifecycle Management | Collaborative | Research Paper | 10-12-2022 |
| 9. | ECE | Mr. Amit Kumar Ph.D. (P) | Design and simulation of nano devices | Individual | Research Paper | 10-12-2022 |
| 10. | ECE | Mr. Neelesh Ranjan Srivastava Ph.D. (P) | GPU as heterogeneous hardware implementation platform for Signal processing algorithms | Individual | Research paper | 10-12-2022 |
| 11. | ECE | Ms. Shipra Srivastava Ph.D (P) | Metamaterial based single layer circularly polarized patch antenna | Individual | Publication | 10-12-2022 |
| 12. | ECE | Mr. Satya Prakash Singh Ph.D. (P) | Design and Simulation of Multi-Gate Transistors for Low Power and High-Performance Applications | Individual | Publication | 10-12-2022 |

| S. No | Dept. | Name of Presenter | Topic of Presentation | Type of Research Work Individual / Collaborative | Expected Outcome (Publication /Projects/ IPR etc) | Date of Presentation |
|-------|----------|----------------------|---|---|--|----------------------|
| 13. | EEE | Dr. Ruchika Singh | De nosing infrared image using OWA filter | Collaboration | Research Paper | 10-12-2022 |
| 14. | EEE | Mr. Rajneesh Kumar | Wind energy connected to Grid | Collaboration | Research Paper | 10-12-2022 |
| 15. | ME | Dr. Neha Bhadauria | Difficulties during fabrication of MMCs | Individual | Publication | 10-12-2022 |
| 16. | KSOP | Ms. Neha Rana | Assessment of Polyherbal Emulgel in the treatment of Rheumatoid Arthritis | Individual | Publication | 10-12-2022 |
| 17. | CSE-AI&M | Dr Rekha Kashyap | Scalability and Security Issues on Blockchain | Individual | Publication | 10-12-2022 |
| 18. | IT | Dr. Jitendra Kumar | Artificial Bee Colony Optimization | Individual | Research and Publication | 10-12-2022 |
| 19. | IT | Prof. Ajay Kumar | Aiding team leader selection in software industry using MCDM | Individual | Research and Publication | 10-12-2022 |
| 20. | CSE | Mr. Naveen Chauhan | A user centric health service computing approach using cloud-edge system | Collaborative | Publication | 24-12-2022 |
| 21. | CSE | Dr. Sushil Kumar | Root power mean neuron model and its learning algorithm in quaternionic domain and its applications | Collaborative | Research Paper | 24-12-2022 |
| 22. | IT | Prof. Ruchin Gupta | Using machine learning for inter smell detection: A feasibility study | Individual | Research and Publication | 24-12-2022 |
| 23. | IT | Prof. Twinkle Tiwari | Sematic segmentation by using deep learning models on retina vessel images | Individual | Research and Publication | 24-12-2022 |

| Sr. No | Dept. | Name of Presenter | Topic of Presentation | Type of research work individual / collaborative | Expected Outcome (Publication /Projects/ IPR etc) | Date of Presentation |
|--------|--------------|--------------------------------|--|--|---|----------------------|
| 24. | ECE | Mr. Balram Tamrakar Ph.D (P) | DPMZM based RoF System | Individual | Publication | 24-12-2022 |
| 25. | ECE | Mr. Vipin Kumar Verma Ph.D (P) | SPR Sensor | Individual | Publication | 24-12-2022 |
| 26. | ECE | Mr. Paramanand Sharma Ph.D (P) | Analysis & Design of Microstrip Patch Antenna | Individual | Publication | 24-12-2022 |
| 27. | KSOM | Dr. Prateek Gupta | Role of Management Education in achieving SDGs | Collaborative | publication | 24-12-2022 |
| 28. | KSOM | Dr. Binkey Srivastava | Marketing analytics | Collaborative | Publications | 24-12-2022 |
| 29. | CSIT | Mr. Ankit Kumar Saini | Data Hiding Techniques | Individual | Publications | 24-12-2022 |
| 30. | CSIT | Ms. Khushboo Pandey | Convolution Neural Network | Individual | Publication | 24-12-2022 |
| 31. | CSE(AI/AIML) | Ms. Bhawna | Secure framework for cyber data | Individual | Publication | 24-12-2022 |
| 32. | ME | Dr. Ajay Singh Verma | Recent Technologies in Biofuels | Individual | Publication | 24-12-2022 |

Collaborative Research and Development Presentations

| December 2022 | | | | | |
|---------------|-------|---|---------------------------|--------------------------|---------------------|
| S. No. | Dept. | Title of the Presentation | Name of Presenter | Designation of Presenter | Number of Attendees |
| 1. | CS | Class Imbalance Problem in Classification | Ms. Arushi Gupta | Assistant Professor | 16 |
| 2. | EEE | Wind Energy Connected to Grid | Mr. Rajneesh Kumar Gahlot | Assistant Professor | 18 |
| 3. | EEE | Performance improvement of VSMT by uncertainty estimator-based robust controller design | Mr. Alok Kumar Pandey | Assistant Professor | 18 |
| 4. | CSIT | Automatic Fruit Recognition Based on DCNN | Ms. Jaya Sharma | Assistant Professor | 18 |

| S. No. | Dept. | Title of the Presentation | Name of Presenter | Designation of Presenter | Number of Attendees |
|--------|-------|--|-----------------------|--------------------------|---------------------|
| 5. | EEE | Performance improvement of VSWT by uncertainty estimator-based robust controller design | Mr. Alok Kumar Pandey | Assistant Professor | 18 |
| 6. | EEE | De-noising Infrared Image Using OWA Based Filter | Dr. Ruchika Singh | Associate Professor | 18 |
| 7. | CSIT | Wireless Sensor Network | Ms. Silki Kharaliya | Assistant Professor | 18 |
| 8. | KSOP | Assessment of Polyherbal Emulgel in the treatment of Rheumatoid Arthritis. | Dr. Neha Rana | Assistant Professor | 19 |
| 9. | IT | Aiding Team Leader Selection in Software Industry using MCDM | Prof. Ajay Kumar | Assistant Professor | 16 |
| 10. | IT | Artificial Bee Colony Optimization | Dr. Jitender Seth | Associate Professor | 15 |
| 11. | CS | Precision Agriculture: Opportunities and Challenges | Mr. Raj Kumar | Assistant Professor | 19 |
| 12. | CS | Feature Descriptors | Mr. Pardeep Tyagi | Assistant Professor | 20 |
| 13. | CS | Machine Learning Based Disease Prediction Model | Mr. Vikas Kamra | Assistant Professor | 20 |
| 14. | CSE | Root-Power Mean Aggregation-Based Neuron in Quaternionic Domain | Dr. Sushil Kumar | Associate Professor | 18 |
| 15. | CSE | A user centric health service computing approach using Cloud-Fog system | Mr. Naveen Chauhan | Assistant Professor | 19 |
| 16. | CSE | Mobile Smart-Contract Lifecycle Governance with Incentivized Proof-of-Stake for Oligopoly-Formation Prevention | Mr. Vipin Deval | Assistant Professor | 30 |
| 17. | CSE | Explainable AI | Mr. Gaurav Parashar | Assistant Professor | 25 |

Summary of Ph. D. Guidance by KIET Faculty Members

| Total No. KIET Faculty Guiding/ have Guided the Ph.D. Scholars | No. of Ph.D. Registered | University |
|--|-------------------------|---------------------------------------|
| 44 | 78 | Central, State and Reputed University |

KIET (R&D) Policies

Promotion of research culture with the formulation of policies by the R&D Committee are as follows:

- KIET Research Policy
- KIET Ethics Policy for Students and Faculty Members
- CV Raman Award Policy
- Policy for KIET Research Faculty Members
- Guidelines for Organizing International Conferences in Institute
- Departmental Research Committee
- KIET Policy for Research Proposals/Grants
- KIET Policy for Research Guidance/Ph.D. Guidance for Improving Research Culture

For details, kindly refer -

<https://www.kiet.edu/Research%20and%20Development%20Policy>

Salient Features of KIET (R&D) Research Policy

Incentive for the Publication in SCI/SCIE Indexed Journals (for faculty)

| S. No. | Categories | Conditions | Incentive (in Rs.) |
|--------|--|--|--------------------|
| 1. | Outstanding Research Publication Incentive | Publication in, Nature (British Multidisciplinary Scientific Journal), Science Academic Journal of the American Association, Harvard Business Review | 25,000 /- |
| 2. | Premier Research Publication Incentive | Paper must be published in SCI/SCIE/SSCI, American Mathematical Society, American Physical Society, American Society for Civil Engineers (ASCE), American Society for Mechanical Engineers (ASME), American Society of Testing Materials (ASTM), Association for Computing Machinery (ACM) Transactions, IEEE Transactions/ Journals/ Letters/ Reviews, IET Transactions/ Journals/ Letters/ Reviews, Institute of Civil Engineering Publishing, London, Institute of Mechanical Engineering, London In addition to the above list the SCI/ SCIE/SSCI journals with impact factor \geq 7 will be considered | 21,000 /- |
| 3. | Commendable Research Publication Incentive | Impact factor between 5 to 6.99 and indexed in SCI/ SCIE/ SSCI | 15,000 /- |
| 4. | Admirable Research Publication Incentive for SCI | Impact factor between 0.750 to 4.99 and indexed in SCI/ SCIE/ SSCI | 11,000/- |

| S. No. | Categories | Conditions | Incentive (in Rs.) |
|--------|---|---|--------------------|
| 5. | Gratifying Research Incentive for SCI | Impact factor between 0.250 to 0.499 and indexed in SCI/ SCIE/ SSCI | 5000/- |
| 6. | Admirable Research Publication Incentive for SCOPUS | Quality research published in SCOPUS having Cite Score 3 and above | 5000/- |
| 7. | Valuable Research Publication Incentive for SCOPUS | Quality research published in SCOPUS having Cite score 2 to 2.999 | 4000/- |
| 8. | Gratifying Research Incentive for SCOPUS | Quality research published in SCOPUS having Cite score 1.000 to 1.999 | 3000/- |

Incentive for Publication in eSCI and CCR Expanded (for faculty)

| S. No. | Categories | Conditions | Incentive (in Rs.) |
|--------|----------------------|---|--------------------|
| 1 | eSCI indexed Journal | Quality research published in eSCI Journals is applicable for publications in any ESCI/CCR-Expanded journal, and a maximum of one ESCI/CCR-Expanded indexed research paper in an academic year shall be considered. | 2000 - |

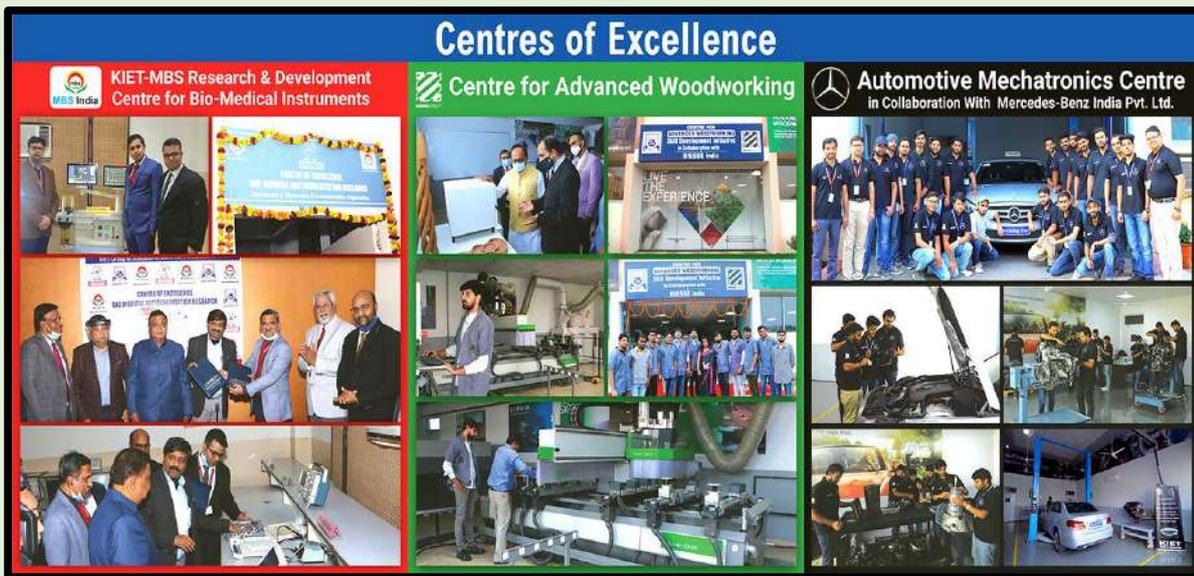
Incentive for Students

- Incentive amount of Rupees Two Thousand (**Rs. 2000/-**) is applicable to student authors for **publications in SCOPUS Journals**.
- Students may claim a registration fee + T.A. (as per institute policy) or Rs. 1000/- whichever is less for publication of conference papers in Scopus Indexed conference.
- Furthermore, as per student policy for final year projects, students can claim 50% of the registration fee charges for publication in Scopus indexed conference.

Various Research Labs in KIET

| S. No. | Research Lab/Centre of Excellence | Department |
|--------|---|-------------|
| 1 | Centre of Robotics and Mechatronics | ECE |
| 2 | KIET NI LABVIEW Academy | ECE |
| 3 | Bio-Medical Instrumentation MBS | ECE |
| 4 | Space Technologies | ECE |
| 5 | Apple for iOS University Program | IT, CS, MCA |
| 6 | D-Link Global Center of Excellence | IT, CS, MCA |
| 7 | Centre for Automotive Mechatronics in association Mercedes Benz | ME |

| S. No. | Categories | Conditions |
|--------|--|--------------|
| 8 | CAD/CAM Lab | ME |
| 9 | Material Science & Testing Lab | ME |
| 10 | IC Engine and Automobile Lab | ME |
| 11 | Maker's Space Innovation Lab | All Branches |
| 12 | Central Instrumentation Lab | Pharmacy |
| 13 | Pharmacology research Lab | Pharmacy |
| 14 | Center of Excellence for Renewable Energy based Power System for Electrical Power Supply and Transportation | EN |
| 15 | Centre of Excellence in latest art of structural analysis and design facilities viz. STAAD PRO, E-TABS, SAP, ANSYS, PLAXIS, Primavera etc. | CE |
| 16 | Centre of Excellence in Process Control and Industrial Automation | EN |
| 17 | Finance Lab | MBA |



Student's Corner



A **humanoid robot** is a robot resembling the human body in shape. The design may be for functional purposes, such as interacting with human tools and environments, experimental purposes, such as studying bipedal locomotion, or other purposes. In general, humanoid robots have a torso, a head, two arms, and two legs, though some humanoid robots may replicate only part of the body, for example, from the waist up. Some humanoid robots have heads replicating human facial features such as eyes and mouths. Androids are humanoid robots built to resemble humans aesthetically.

At the ECE Department KIET Group of Institutions, we are developing one such humanoid by the team of students and Faculty, including Mr Piyush Khanna (CS Dept.) Mr Harsh Chhillar (ECE Dept.), Dr. Shubham Shukla (Assistant Prof. ECE Dept.) and Mr. Atul Kumar (Lab Assistant, ECE Dept.). The Humanoid consists of several features like vision, speech, face recognition, Path Planning, Gesture Control using Servo motors, learnability, interaction with humans, mimic human actions, and delivering information and facial expressions with complete AI-equipped algorithms. The humanoid will serve as an AI-equipped Robotic Receptionist at the KIET's academic.



Piyush Khanna
Student
Department of CS

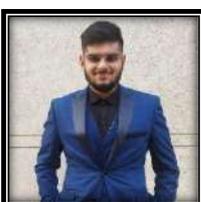


Harsh Chhillar
Student
Department of ECE



An Artificial Environment Conditions on **Plant Biotechnology**, Plant Growth is a project based on creating artificial conditions for growing plants. In places where sunlight can't be reached. And we are also monitoring data like Soil Moisture, temperature, Humidity and Light Intensity. And we can control things like Light Intensity, water and temperature. All these things can be monitored and controlled by your phone sitting anywhere in the world as it is an IoT Based project.

At the EEE Department KIET Group of Institutions, we are developing Artificial Environment Conditions on Plant Biotechnology, and Plant Growth by the team of students and Faculty, including Mr. Keshav Raina (EEE Dept.) Ms Shikha (EEE Dept.), Dr Neeraj Gupta (HOD EEE Dept.) and Mr. Praveen Tyagi (Lab InCharge EEE Dept.). Conditions of the Artificial Environment on Plant Biotechnology and Plant Growth We are now developing artificial environment conditions for plant growth and biotechnology. Farmers will employ artificial environmental conditions for plant biotechnology and plant growth in efficient agriculture.



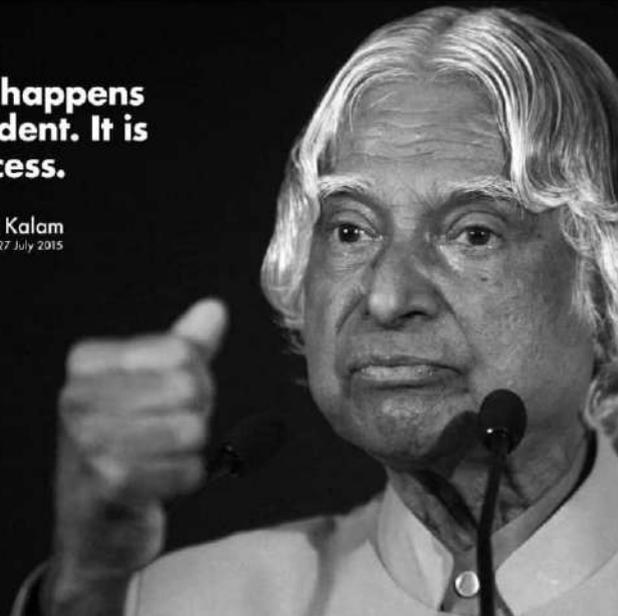
Keshav Raina
Student
Department of EEE



Shikha
Student
Department of EEE

“
**Excellence happens
not by accident. It is
a process.**”

APJ Abdul Kalam
15 October 1931 - 27 July 2015



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Delhi-NCR, Ghaziabad, Uttar Pradesh, India-201206