

**K J COLLEGE OF ENGINEERING & MANAGEMENT
RESEARCH, PUNE**

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**International Conference on Innovative Trends
in Engineering and Technology
[ICITET-2022]**

28th & 29th July 2022

In Association With



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**International Conference on Innovative Trends
in Engineering and Technology
[ICITET-2022]**

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Editors

Dr. Suhas Khot

Dr. Nikita Kulkarni

Prof. Ranjana Kedar

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Preface

Conference World and AR Research Publication is fast growing group of academicians in Engineering, Sciences and Management. AR Research Publication is also known for fast reply and zero error work. Conference world has organized various conferences at renowned places namely Delhi University; New Delhi, Jawaharlal Nehru University; New Delhi, PHD Chamber of Commerce and Industry New Delhi, YMCA New Delhi, India International Centre New Delhi Sri Venkateswara college of Engineering and Technology, Andhra Pradesh, Dhananjay Mahadik Group of Institutions (BIMAT), Shivaji University, Maharashtra, Vedant Engineering Kota and many more places across the country.

We are very pleased to introduce the proceedings of the International Conference on Innovative Trends in Engineering and Technology [ICIET-2022]. As for previous conferences, the theme was the link between the information provided by conference world and the use made of this information in assessing structural integrity. These were the issues addressed by the papers presented at the conference. The level of interest in the subject matter of the conference was maintained from previous events and over 115 suitable papers were submitted for presentation at the conference.

Papers were well represented in the conference to arouse a high level of international interest. Three countries were represented in the final program from Europe, North America and Asia. In the event, the conference was highly successful. The presented papers maintained the high promise suggested by the written abstracts and the program was chaired in a professional and efficient way by the session chairmen who were selected for their international standing in the subject. The number of delegates was also highly gratifying, showing the high level of international interest in the subject. This is also indicated by the large number of countries, 04 represented by the delegates. This Proceeding provides the permanent record of what was presented. They indicate the state of development at the time of writing of all aspects of this important topic and will be invaluable to all workers in the field for that reason. Finally, it is appropriate that we record our thanks to our fellow members of the Technical Organizing Committee for encouraging participation from those areas. We are also indebted to those who served as chairmen, without their support, the conference could not have been the success that it was. We also acknowledge the authors themselves, without whose expert input there would have been no conference. Their efforts made a great contribution to its success.

About the College

KJ's Educational Institutes is established in the year 2005 with excellent infrastructure spread over 110 acres of green campus with spacious buildings having backdrop of Sahyadri hills.

Institute was founded with the noble vision to raise professionals and leaders of high academic caliber who can face the challenges of advancing technology and newer knowledge areas. We want to prepare our students professionally, and nurture them with a strong motivation and commitment to serve humanity. KJCOEMR was established in the year 2009. We offer a four-year full-time degree course in 'Bachelor of Engineering' with specializations in Civil(120), Computer(120), Electrical(30), Electronics and Telecommunication(30), and Mechanical Engineering(90) and four post-graduate courses in Computer Engineering(24), Computer Networks(24), Civil-Structural Engineering(24) and Mechanical-Design Engineering(24). The College is approved by AICTE & DTE, Govt. of Maharashtra and is affiliated to the University of Pune.

The modern state-of-the-art infrastructure and facilities are developed to provide a conducive atmosphere for Teaching, Learning & All Round Development of the Students. In order to achieve our objectives, we have qualified teachers and staff dedicated to maintain high standards. The majority of our faculty members are having more than 10 years of Academic and/or Industrial Experience in their respective disciplines. Teaching Methodology includes well-prepared Lecture Notes, the latest Presentation Techniques, Interactive Sessions, as well as dialogue between students and teachers. We encourage one-to-one interactions between teachers and students, for co-curricular as well as extra-curricular activities.

Aim & Objective of the Conference

The Conference is aimed to bring together inquisitive academicians, industry experts, researchers and practitioners to share their innovative and revolutionary ideas, resolve significant issues, and contribute towards inculcating a healthy and coexistent learning ambiance. The conference aspires to encircle all prominent avenues in the field of Engineering and Technology. The conference is an umbrella of boundless experience and the inquisitive thirst of exploring exemplary concepts under one roof.

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MESSAGE FROM PRESIDENT



It gives me immense pleasure that the KJ College of Engineering and Management Research has organized the International Conference on Innovative Trends in Engineering and Technology (ICITET-2022), in association with International Association the of Research and Developed Organization (IARDO) and Conference World. Ever since the inception of our institute, we have been striving for excellence in various departments of Engineering and at the very same time marching forward with the mission of professional as well as technical development.

I believe in promoting events to be organized in KJEI which opens research and innovation avenues for students. This International Conference on Innovative Trends in Engineering and Technology is one such step towards motivating students and researchers. The conference greatly encourages graduate and Post-graduate students, research scholars and faculty to present innovative ideas and latest discoveries in the field of engineering and Technology. I would like to extend my gratitude towards Research and development cell and all staff who had done excellent job for the success of this conference. I take this opportunity to extend my best wishes to all the participants of this conference for their future endeavors and also aspire that more and more people opt for research and bring laurels to themselves and to the field of education.

Shri. Kalyan Jadhav

President, KJEI

MESSAGE FROM EXECUTIVE DIRECTOR



At the outset, my appreciation and congratulations to KJ College of Engineering and Management Research for successfully organizing the International Conference on Innovative Trends in Engineering and Technology (ICITET-2022) on 28th and 29th July 2022. Education in general and technical education in particular, must be relevant to rapidly changing needs of the society, industry and business houses. The educational environment must be dynamic and quickly adaptable, so that professionals are capable of shouldering all-encompassing global responsibilities.

The conference brought together students, researchers and educators of varied domains to share their ideas, views and also to explore their technical abilities. I am confident that this event will be useful to researchers and academicians to enhance their knowledge on the research topics of their chosen field.

I express my sincere thanks to all well-wishers for their valuable guidance and unstinted support, who have been directly or indirectly involved in organizing this conference. May you all always be in pursuit of Excellence.

Maj Gen. Sameer Kalla, VSM (Retd),

Executive Director, KJEI

MESSAGE FROM CAMPUS DIRECTOR



It gives me great pleasure to be part of the International Conference on Innovative Trends in Engineering and Technology (ICITET-2022) in KJEI campus. The conference proceedings are a collection of research based articles and papers presented by graduate and post graduate students and research scholars from all over India. These articles not only handle various issues in the field of Technology but also touch an array of topics right from Civil, Mechanical, Electronics and Computer branches. Conducting a conference of this magnitude is always encouraging and I would appreciate the efforts of the K. J. College of Engineering and Management Research in this endeavor.

I hope that the conference will provide a platform for various personnel to introduce innovative ideas and thoughts and exhibit their research skills in the area of all Technologies for sustainable development.

Dr. V. J. Kakhandki

Campus Director, KJEI

MESSAGE FROM PRINCIPAL



KJCOEMR is one amongst the reputed technical Institute imparting finest quality education in Pune. The evolution of the Institute over the years has witnessed strong blend of state-of-the-art infrastructure and intricately intertwined human resource committed to provide professional education with thrust on creativity and innovation. Therefore, our main focus is on adapting the teaching-learning process that leads the research orientation to expand personal as well as national growth.

"A desire can change nothing.... A decision can change something.....But a determination can change everything.....!!!!"

We encourage innovative ideas by faculty and students in overall development of the learners. Along with the academics the students also participate in extracurricular and co-curricular activities through active cultural, sports, social groups. I wish you a very happy and academically highly rewarding student's life in KJCOEMR and hope that you will be a source of pride for this prestigious institution.

Dr. Suhas S. Khot,

Principal,

KJ College of Engineering and Management Research

MESSAGE FROM CONVENER



It is fair to conclude that the **International Conference on Innovative Trends in Engineering and Technology (ICITET-2022)** held at K. J. College of Engineering and Management Research in association with the conference world on 28th and 29th July, 2022 was a great success. So many people have contributed in so many ways to turn this event into a smoothly running meeting with very interesting presentations and a very good atmosphere for discussion and networking.

Management of KJCOEMR has helped in obtaining the necessary administrative approval for organizing the event in our Campus. They supported in all possible manner to organize this conference. My special thanks to Dr. M. S. Sutaone, Chief Guest and Dr. Kathryn Hummel, Guest of honor for their gracious presence at the event. I extend my sincere thanks to Prof. Ranjana Kedar, Coordinator, IITET-2022. I am thankful to my faculty colleagues and non-teaching staff members for their constant help and guidance that radiated a source of energy within me. I feel proud and thank you for making this event a successful one. I am thankful for the enormous and high-quality support of all authors, reviewers and session chairs.

I wish that ICITET will keep on growing in coming years with more impact on the International research community.

Dr. Nikita Kulkarni,

Convener,

International Conference on Innovative Trends in Engineering and Technology (ICITET-2022)

All papers will undergo a double-blind peer review process and the criteria for acceptance will be based on quality, originality, technical content and relevance.

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Total 118 papers were received for the conference and 85 papers were shortlisted by the committee.

1. Accepted papers will be published in the peer reviewed international journals having ISSN & High Impact factor.
2. Selected Papers will be published in the UGC Care listed international journals having ISSN & High Impact factor.
3. Few very good quality Papers will be published in the Scopus indexed journal having ISSN & High Impact factor.
4. Author will get certificates, one for paper publication in Journal other for paper presentation in conference as per their choice
5. All the papers of the conference will be published in the conference proceeding with ISBN.
6. All the accepted and presented/ Non-Presented papers will be indexed in Google scholar & IDIIF.

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