

International Conference on Recent Trends in Engineering and Technology

ICRTET-2023

Organized By:



Hirasugar Institute Of Technology, Nidasoshi.

Accredited at 'A' Grade by NAAC Programmes Accredited by NBA: CSE & ECE.

8th & 9th December 2023

In Association with



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**International Conference on
Recent Trends in Engineering and
Technology**

ICRTET-2023

*Venue: NBA Seminar Hall, D-Block
Hirasugar Institute of Technology, Nidasoshi.*

Editors

**Dr. S. C. Kamate
Dr. K. M. Akkoli
Dr. S. N. Topannavar**

Publish By:
A.R. Research Publication

Preface

Conference word and AR Research Publication is a fast-growing group of academicians in Engineering, Sciences, and Management. A R Research Publication is also known for its fast reply and zero-error work. The 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 Venknteswara College of Engineering and Technology, Andhra Pradesh, Vedant Engineering Kota and many more places across the country.

We are very pleased to introduce the proceedings of the International Conference on Recent Trends in Engineering and Technology. The Recent Innovations & Development in field of Engineering and Technology were 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 40 suitable papers were submitted for presentation at the conference.

Papers were well represented at the conference to arouse a high level of international interest. 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. The program was chaired professionally and efficiently by the session chairmen also highly gratifying, showing the high level of interest in the subject. This Proceeding provides a 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 authors 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 Conference

ICRTET-2023 intends to provide a common platform to the researchers, academicians, practitioners, engineers, research scholars, PG and UG students in frontline evolutionary and challenging fields. It is expected to share their knowledge and research expertise to

advance in the areas of emerging scientific applications in engineering and technology, as well as to create a prospective collaboration and networking on various allied ventures.

About IARDO

International Association of Research and Developed Organization (IARDO) is a leading organization in the field of academic research activities under the banner of India Educational Charitable Trust (Regd).

International Association of Research and Developed Organization (IARDO) is an apex body that promotes and encourages commendable achievements from all over the country. The organization under conference world regularly organizes national and International level conferences with the help of its members to promote socially responsible education practices and sustainable development in economic as well social front in India.

About the College

The institute is run by his holiness Shri Jagadguru Pancham Shri Shivalingeshwar Mahaswamiji under SJPN Trust. It was founded by His Holiness Shri Pancham Nijalingseshwar Mahaswamiji, the Ninth pontiff of Shri Siddha Sansthan Math Nidasoshi in 1984. This Engineering Institution was established in the year 1996 with the approval of the All India Council for Technical Education (AICTE), New Delhi and is permanently affiliated with Visvesvaraya Technological University (VTU), Belagavi. Hirasugar Institute of Technology (HSIT) is one of the premier engineering colleges in the Belagavi district of North Karnataka serving successfully by providing quality education to the rural intellect for the last 27 years. The Institute is accredited by NAAC at 'A' Grade and NBA. The HSIT is spread over 48 acres of land. The campus has all the basic amenities for the overall development of the students with spacious infrastructure. The institute has well-equipped modern laboratories and well-stacked computerized digital & open-access library system. The Institute has facilities like separate hostels for boys and girls, staff quarters, a Canteen, a Bank, a Guest house, a Generator, a playground, a multi-station gymnasium hall for Indoor games, Yoga and transportation for students and staff. The HSIT, Nidasoshi offers 4 years of full-time (B.E.) Bachelor of Engineering degree courses in five disciplines with a total intake of

420 students, Mechanical Engineering, Electrical & Electronics Engineering, Electronics & Communication Engineering, Computer Science Engineering and Civil Engineering.

HON. CHIEF PATRON:

His Holiness Jagadguru Panchama
Sri Shivalingeshwar Mahaswamiji
Siddha Sousthana Math Nidasoshi

HON. PATRON:

His Holiness, Sri Nijlingeshwar Mahaswamiji
Siddha Sousthana Math Nidasoshi

INTERNATIONAL KEYNOTE SPEAKER:

Narender Chinthamu,
MIT Certified CTO & Senior, Enterprise Architect Coppel, TX, USA

GUEST OF HONOR & NATIONAL KEYNOTE SPEAKER:

Dr. Suresh H Jangamashetti,
Vice Chancellor, Haveri University, Haveri

NATIONAL KEYNOTE SPEAKER:

Dr. Nagendra S.
Associate Professor, Manipal Law School, Manipal Academy of Higher Education,
Bengaluru campus India

CHIEF CONVENER:

Dr. S. C. Kamate,
Principal, HSIT, Nidasoshi.

CONVENERS:

Dr. K. M. Akkoli,
Dean (Research & Development)

Dr. S. N. Topannavar,
Dean (Academics) & HOD, Mechanical Engineering.

REVIEWER:

Ankur Kumar
Assistant Professor, Buddha Institute of Technology, Gida, Gorakhpur.

SESSION CHAIRS

Dr. M. G. Huddar.

Dr. S. S. Ittannavar.

Dr. M. M. Shivashimpi.

Dr. Tanuja S. B.

MASTER OF CEREMONY

Prof. (Smt.) B. P. Khot

Assistant Professor, ECE

CONFERENCE ORGANIZING COMMITTEE:

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HOD Electrical & Electronics Engineering.

Dr. S. S. Ittannavar,

HOD Electronics & Communication Engineering.

Prof. S. V. Manjargi,

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Prof. S. M. Chandrakanth,

HOD Civil Engineering.

Dr. K. B. Manawade,

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Dr. M. G. Huddar,

Dean (Student Welfare).

Dr. M. M. Shivashimpi,

Dean (Examination).

Dr. M. S. Hanagadkar,

NISP/IIC Coordinator.



Message

Dr. Suresh H Jangamashetti,
Vice Chancellor, Haveri University
Haveri, India

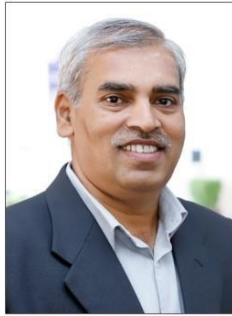
It is a matter of proud privilege to associate with the two-day International Conference on “**International Conference on Recent Trends in Engineering & Technology**” which will be organized by Hirasugar Institute of Technology, Nidasoshi on December 8th -9th, 2023. Hirasugar Institute of Technology gives the platform for innovative ideas of this region to come together through seminars or conferences and to serve as a link between academicians and policymakers as well as corporate administrators of the region and the national and international community.

I extend my best wishes to all participants, invited delegates, and speakers and hope that **ICRTET-2023** will be a grand success. I intend to take this event ahead as an annual feature. The motive not only is to generate discussions around contemporary research issues but also to propel the culture of academic exchange, which is the only way to achieve excellence in the field of Research.

I congratulate the Institute for organizing the International Conference and being a part of this Mega Event.

Wish you all the Best for the Grand Success of This Mega Event.

Dr.Suresh H Jangamashetti,
Vice Chancellor,
Haveri University Haveri, India



Message

Dr.S.C. Kamate,
Principal
Hirasugar Institute of Technology,
Nidasoshi

It is with a sense of delight that Hirasugar Institute of Technology, Nidasoshi is organizing a Two Days International Conference on the theme “**International Conference on Recent Trends in Engineering & Technology**” (ICRTET-2023) on December 8th -9th, 2023. The world is changing very fast. The current research, constant adaptation and change have made society grow in new technology. This degree of volatility and change requires thoughtful designs, rigorous planning and diligent oversight to manage the fruitful growth and development of society. In today’s era, research in Education, Engineering, Science, Commerce, and Management has made society highly advanced and sophisticated.

This Conference will provide a new platform for leading academicians, researchers, practitioners and students to interact and share as well as exchange their valuable experiences. I am confident that the International Conference would be a useful platform for the exchange of ideas and best practices and will benefit society.

I personally express my sincere gratitude to my kind-hearted Management, all coordinators, my colleagues as well my sincere students for their Hard Work, Dedication as well devotion to making this Mega Event a Grand Success.

Dr.S.C. Kamate,
Principal & Chief Convener



Message

Dr. K. M. Akkoli
Dean Research and Development

It is very pertinent that the “**International Conference on Recent Trends in Engineering & Technology**” (ICRTET-2023) is going to be held on December 8-9, 2023. Today the world has become a global village in every sphere of life. Administrators, the Corporate World as well and Policymakers are adopting new and advanced strategies to face the diversified competition through research. The main purpose of the Conference is to provide a forum for committed academicians, research scholars & students from across India and the world to discuss these typical research issues. We must participate and contribute to Contemporary research issues of Education, Engineering, Science and Management to sort out their applications and impacts for better growth and development of society.

I seek your support and good wishes for this International Conference to be a grand success. I also thank our Management, Principal, staff and students who have supported directly or indirectly in organizing this Conference.

Dr. K. M. Akkoli
Dean Research and Development
Convener



Message

Dr. S. N. Topannavar
Dean Academics and HOD
Mechanical Engg. Department

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I seek your support and good wishes for this International Conference to be a grand success. I also thank our Management, Principal, staff and students who have supported directly or indirectly in organizing this Conference.

Dr. S. N. Topannavar
Dean Academics and HOD
Mechanical Engg. Department,
Convener



Message

Ms. Reshu Gupta,
CEO Conference World

It gives me immense pleasure to note that the two-day International Conference will be held on the “**International Conference on Recent Trends in Engineering & Technology**” from 8th - 9th December, 2023. I am confident that the International Conference will bring together a kaleidoscope of vibrant ideas and healthy deliberations on a single platform in a fast-changing scenario.

I extend my best wishes to all participants, invited delegates, and speakers and hope that **ICRTET-2023** will be a grand success. I intend to take this event ahead as an annual feature. The motive not only is to generate discussions around contemporary issues but also to propel the culture of academic exchange, which is the only way to achieve excellence in this field.

I congratulate the Institute for organizing the International Conference and wish the programme a grand success.

Wishing you all the Best.

Ms. Reshu Gupta,
CEO Conference World

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International Conference on Recent Trends in Engineering & Technology (ICRTET-2023) organized at NBA Seminar Hall, D-Block, Hirasugar Institute of Technology, Nidsoshi. Total 85 papers were received for the conference and 40 papers were shortlisted by the committee.

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