

**13TH INTERNATIONAL CONFERENCE ON
RECENT TRENDS IN ENGINEERING
SCIENCE AND MANAGEMENT**

ICRTEISM-18

ORGANIZED BY:



School of Electronics and Communication Engineering

REVA University

Rukmini Knowledge Park, Yelahanka, Bangalore

In Association with



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**13TH INTERNATIONAL CONFERENCE ON
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Editors

**DR. R. C. BIRADAR
PROF. SHRIKANT S. TANGADE**

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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 a 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 *13th International Conference on Recent Trends in Engineering Science and Management (ICRTESM-18)*. 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 169 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, 17 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 Conference

13th International Conference on Recent Trends in Engineering Science and Management (ICRTESM-18) is a global event organized by REVA University & Conference World. This conference provides an international forum for researchers, developers, engineers and practitioners who are involved in real time projects that provide solutions to exchange their valuable ideas and showcase the ongoing works which may lead to path breaking foundation of the futuristic engineering. It accentuates indispensability of interdisciplinary and cross – linked thinking with respect of innovation and market opportunities. All the accepted paper will be published in International Journal with ISSN & Conference proceeding having ISBN without any additional fee.

About REVA University

REVA University has been established under the Government of Karnataka Act 80 of the year 2012. The University is located in Bengaluru on a sprawling green campus, spread over 45 acres of land, built with the state-of-the-art infrastructure creating an environment conducive for higher learning and research. The Founders of REVA University believe in the motto of ‘Knowledge is Power’. Driven with philanthropic vision and a missionary zeal, the campus is built to transform students into outstanding citizens. The University prides itself in contributing to every student’s holistic development. The University currently offers 18 full - time Post Graduate programs, 5 part - time Post Graduate programs, 15 Graduate Degree programs and several Post Graduate Diploma programs in Engineering, Architecture, Science and Technology, Commerce, Management Studies, Law and Humanities. Above all the University facilitates research leading to Doctoral Degree in all disciplines. The programs offered by REVA University are well planned and designed based on in depth

analysis and research with emphasis on knowledge assimilation, practical applications, hands - on training, global and industrial relevance and their social significance.

REVA University believes in preparing students through the Choice Based Credit System (CBCS) and Continuous Assessment and Grading Pattern (CAGP) of education. The CBCS & CAGP pattern of education has been introduced in all programs to facilitate students to opt for subjects of their choice in addition to the core subjects of the study and prepare them with required skills. It also provides opportunities for students to earn more credits and there by acquired additional Proficiency Certificates and Diplomas.

Conference Highlights:

1. All the accepted and presented/Non Presented papers of the duly registered authors will be published in the special conference issues of the international journals approved by UGC having ISSN & Impact factor.
2. Every author will get two certificates, one for paper publication in Journal other for paper presentation in conference.
3. Registration kit for each papers those will attend the conference at venue.
4. All the papers of the conference will be published in the conference proceeding with ISBN.
5. All the accepted and presented/Non Presented papers will be indexed in Google scholar & IDIIF.
6. Research Paper in absentia is also acceptable.

All Accepted Papers will be published in UGC Listed Journals

Topics Covered:

All Branches of Engineering, Science (Physics, Chemistry, Biology, Environment, Mathematics etc), Management & Humanities

Research or Review Paper from all the Branch of Engineering, Science, and Management are welcome.

Topics Covered not Limited to this

Civil Engineering
Green and Intelligent Building
GIS, GPS & Remote Sensing
Modern Construction Project Management
Advancement in Pre-stressed Concrete
Recent Advances in Transportation Infrastructure
Computer Science and Engineering
Grid, Cloud & Mobile Computing
Cyber Security
Open Source Technology
Artificial Intelligence
Data Mining & Warehousing
Electrical and Electronics Engineering
Smart Grid
Soft Computing Methodologies
MEMS
Power Drives and Control
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Space Communication
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Mechanical Engineering
Smart Materials

CAD / CAM / CAE
Welding Technology
Robotics
Hybrid Systems
Science & Humanities
Physics, Chemistry, Environment
Management
Entrepreneurship Management
E-Business
Real Estate Management
HRM and Finance
Logistics and Supply Chain Management

MESSAGES



Message from Honorable Chancellor

The foundation stones of REVA University are laid on the essence of academic pursuit and excellence. Excellence in any work can be achieved with utmost dedication, hard work, and perseverance. We, at REVA, have made this dictum our motto and our way of life in every single activity in the campus.

Research and development forms the backbone of our curriculum at REVA. The staff and students are engaged in various path-breaking innovative research activities all throughout the year. Every school of our University organizes conferences and seminars frequently on contemporary and relevant topics in order to facilitate research in those areas which will lead to necessary metamorphosis in the academia as well.

The School of Electronics and Communication Engineering at REVA, right from its inception, has been active in research and innovation and has setup an ambient academic environment for its students and research scholars. With the commitment of highly qualified and efficient staff, the school endeavors vigorously to make a mark in the field of research and development. The 13th International Conference on Recent Trends in Engineering, Science and Management (ICRTESSM-2018) organized by the school Electronics and Communications in association with Conference World. The 13th ICRTESSM-2018 another venture to provide a platform for academicians – teachers, students, research scholars, and industry personnel – all over the globe to discuss on contemporary trends and innovations in Engineering, Science and Management. All the papers presented in the conference will be submitted for inclusion in UGC approved journal.

I wish the conference all the very best and urge all the participants to brainstorm the various thrust areas of the conference. I also wish all of you a happy stay in our campus and look forward to your participation in various events in the campus.

Dr. P. Shyama Raju
Chancellor, REVA University,
Bengaluru, India.



Message from Vice-Chancellor

The conferences are necessary to bring in culture of information exchange and feedback on developing trends in technologies. I am delighted to note that the School of Electronics and Communication Engineering is organizing the International Conference entitled “13th International Conference on Recent Trends in Engineering, Science and Management (ICRTESM-2018)”. Certainly, this type of conference not only brings all the researchers, students at one platform, but it also inculcates the research culture among the entire fraternity of Education in the country, thereby, contributing to the development of nation.

I hope that this conference would certainly induce innovative ideas among the participants paving way for new inventions and technologies in Engineering, Science and Management.

I Congratulate, Dr.R.C.Biradar, Director, School of Electronics and Communication Engineering, and his team for initiating the conduction of such a conference in our esteemed University.

I wish the conference a grand success.

Dr. S. Y. Kulkarni
Vice-Chancellor, REVA University,
Bengaluru, India



Message from Registrar

The Engineering, Science and Management research conducted in academic institutions, industry, R&D Laboratories and elsewhere plays a critical role in raising our standard of living, creating jobs, improving health and providing for national security and development. I am extremely happy to note that School of Electronics and Communication Engineering, REVA University is organizing “13thInternational Conference on Recent Trends in Engineering, Science and Management (ICRTESM-2018)”.

I am sure that the conference of this type will inculcate the much needed research culture among the students and teachers and trigger interactions among researchers to exchange the ideas of recent advances in the areas of Engineering, Science and Management.

I wish the conference a grand success.

Dr. M. Dhanamajya
Registrar, REVA University,
Bengaluru, India



Message from Advisor

Francis Bacon said “Reading makes a full man; conference a ready man; and writing an exact man”. Conferences bring together people of varied experiences and provide an opportunity to everyone to share their thoughts. Mutual participation and high quality deliberations create inspiring learning environment resulting into innovative ideas. Today’s industry expects such inputs to bring home new innovations and inventions.

The “13th International Conference on Recent Trends in Engineering, Science and Management (ICRTE SM-2018)” organized jointly by the School of ECE, REVA University in association with Conference World is focused on the future industrial aspects available for Engineering, Science and Management in particular. The Conference provides an open forum for scientists, researchers and engineers to discuss nascent innovations and research advancements in the areas of next generation electronics, computers, communication architectures, protocols and algorithms, content systems, application and services. It will be a wonderful opportunity for delegates to gain quality input useful for their future research in this knowledge based society. The conference papers being published in UGC approved journal will be of great source of information to the academicians, scholars and industrialists.

I congratulate the organizers and wish the conference a great success.

Dr. V. G. Talawar

Advisor

REVA University

Bengaluru, India.



Message from General Chair, 13thICRATESM-2018

The conference provides platform for researchers to get networked and exchange the ideas for further progress in research and development. The “13thInternational Conference on Recent Trends in Engineering, Science and Management (ICRATESM-2018)” is a flagship conference of REVA University wherein all the papers accepted and presented have been indexed in UGC approved journal. 13thICRATESM-2018 has a vision to make the researchers to have good social networking in the areas of Engineering, Science and Management, and bring forward to the society their contributions. I am thankful to Conference World for their support in organizing this conference.

I thank our Honorable Chancellor, REVA University, Dr. P. Shyamarju for his constant support and encouragement to conduct such a prestigious conference in the state of Karnataka. I thank Vice Chancellor Dr. S. Y. Kulkarni, Registrar, Dr. M. Dhanamjaya and Advisor Dr, V. G. Talawar for motivation and support to organize this conference. My sincere gratitude's are towards our vibrant Electronics and Communication Engineering faculty and staff members for their un-tired efforts towards the conference.

I wish all the conference participants and organizers a big success!

Dr. Rajashekhar C. Biradar
General Chair, 13thICRATESM-2018 &
Director, School of ECE,
REVA University,
Bengaluru, India.



Message from General Co-Chair, 13thICRATESM-2018

The conferences have to be organized at various levels to offer a platform to various levels of researchers. This International conference provides a forum to all researchers to exchange the information on research and innovations and enhance the quality of research.

The conference provides a platform for researchers to get networked and exchange the ideas on various areas such as Engineering, Science and Management.

High quality deliberations that happen in conference will lead to high standard publications at international levels which feed into the industry's innovation pipeline. Industry expects such inputs to create innovation and the next big things.

I wish all the participants a happy stay in campus and a fruitful interaction on their works.

Prof. Shrikant S. Tangade

*General Co-Chair, 13thICRATESM-2018, &
Assistant Professor, School of ECE,
REVA University,
Bengaluru, India.*

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Total 333 papers were received for the conference and 178 papers were shortlisted by the committee.

All the accepted and presented papers of the duly registered authors will be published in the UGC Approved International Journals

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