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**INTERNATIONAL CONFERENCE ON
INNOVATIVE RESEARCH IN SCIENCE,
TECHNOLOGY AND MANAGEMENT**

ICIRSTM-17



**MODI INSTITUTE OF MANAGEMENT & TECHNOLOGY,
DADABARI, KOTA, RAJASTHAN**

ON

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**INTERNATIONAL CONFERENCE ON
INNOVATIVE RESEARCH IN SCIENCE,
TECHNOLOGY AND MANAGEMENT**

ICIRSTM-17

Editors

PROF. N.K. JOSHI

MR. SUSHIL MODI

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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 “*International Conference on Innovative Research in Science, Technology and Management (ICIRSTM-17)*”. 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 45 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.

Proceeding of the conference has been published with **ISBN: 978-93-86171-20-7**

“*International Conference on Innovative Research in Science, Technology and Management (ICIRSTM-17)*” was organized at **Modi Institute of Management & Technology, Dadabari, Kota, Rajasthan on 22nd-23rd January 2017**

Total 315 papers were received for the conference and 83 papers were shortlisted by the committee.

ABOUT MODI INSTITUTE OF MANAGEMENT & TECHNOLOGY

MIMT is known for its academic excellence, accomplished faculty and leading edge technology development for the future. MIMT prepares its students for career success. Students are educated in fundamentals as well as emerging technologies and developments; they are trained to be adaptable and flexible for the rapidly changing world. MIMT offers students a dynamic, supportive and creative environment in which they are encouraged by a committed staff, to pursue personal excellence in academic pursuits, resulting in enhanced prospects for career development. MIMT is committed to provide all students with quality program that will meet and exceed expectations.

The Institute, since its inception has aimed at producing the best talent from its premises by imparting sound academic and professional knowledge to the students, using innovative methodology of teaching and learning. The Institute has a city centered campus in an area of 10 acre. The campus environment is highly conducive and healthy for the all-round development of the student. The Institute is preparing professionals to learn the process of combating every known or unknown challenge of their career. This is done through highly experienced and dedicated faculty members, eminent industry experts for guest lectures, exposure to practical knowledge through workshops, seminars and industrial training and consultancy projects.

This Institute gives full assistance and support to get the students placed in the reputed companies. Ethical and moral values are inculcated to make them integral citizen for exhibiting values against pressure, injustice and greed. MIMT offers Master's Degree Programs like MBA and MCA along with Ph.D. & EVA (Extra Value Added) Programs.



RAJASTHAN TECHNICAL UNIVERSITY, KOTA

Rawatbhata Road, Akelgarh, Kota-324 010

Prof.N.P.Kaushik

Vice Chancellor

No.RTU/VCS/F(1)26/2017/

Date 20-1-2017



MESSAGE

It gives me immense pleasure to know that Modi Institute of Management & Technology, Kota is organizing International Conference on "Innovative Research in Science, Technology & Management (ICRISTM-17) on 22-23rd January, 2017.

I am confident that this conference would provide a platform to the academicians, researchers for new innovation in the field of Science, Technology and Management.

I convey my best wishes for grand success of the conference.


(Prof.N.P.Kaushik)

Prof. P. K. Dashora
Vice Chancellor



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D.O.No. :
Date : 20.01.2017

MESSAGE

It is indeed a matter of immense pleasure for me, that Modi Institute of Management & Technology, Kota is organizing International Conference on Innovative Research in Science Technology and Management (ICIRSTM-2017).

I take this opportunity to congratulate SRD Modi Educational Society for organizing such Conference which encourages the professional fraternity to explore the new areas of research, innovations and opportunities in Science Technology and Management and enhance the quality of professional services. I am sure the Conference will be an incentive for participants from various levels and the proceedings brought out on this occasion will be useful and informative for all. Also, the deliberations held at the Conference will immensely help various professionals who will participate in it.

I wish the organizers of the Conference and the participants a grand success.

(P.K. Dashora)

VICE PRESIDENT'S MESSAGE



It is a great pleasure for me to welcome you on behalf of the Conference Committee, to this First International Conference on Innovative Research in Science Technology and Management (ICIRSTM-2017). I am glad that we can have this International Conference in Modi Institute of Management & Technology, Kota ,Rajasthan

This conference has an important aim, namely to bring the presently most acute practical problem areas to the attention of scientists in the general field of science technology and management. These scientists, devoted to fundamental research, may feel the appeal of the conference topic and are competent to

contribute to the solution of these problems, but up to now may not be sufficiently aware of the many technologically important and scientifically fruitful existing problems.

The second dimension of this meeting extends across the boundaries of the technical fields and should initiate a cross-fertilizing of the different technological disciplines involved.

Due to the truly international character of this conference there is also a third dimension of communication across the boundaries of countries.

Beyond all this, the Conference Committee expresses its gratitude towards the authors who have submitted well-written meaningful papers which are the very means which have attracted you to the Conference. Their willingness to openly describe their achievements, share experiences and confront their concepts is greatly appreciated.

I am assured that the discussions in this International Conference will enlighten the corporate delegates, academicians, research scholars and students.

Sushil Modi

Vice President

Modi Group of Educational Institutions

VICE PRESIDENT'S MESSAGE



I am happy that the International Conference on Innovative Research in Science Technology and Management(ICIRSTM-2017), will be held in Modi Institute of Management & Technology, Kota on 22-23 January, 2017. It is certainly heartening to note that the event has attracted academicians, research scholars, students and industry experts from almost every corner of the country. I am convinced that the discussions of this conference will contribute new dimensions in the field of Science Technology and Management.

This conference is an attempt in that direction and that is what makes it so relevant for the academic and the policy making community of the world. While wishing the conference all success, I sincerely hope that it will throw up new policy dimensions for the academic community participating in the conference and will deepen their knowledge of the complex process called globalization, benefiting from each other's rich experience.

I am confident that this meeting will be of a high standard and very educative. I am sure the consensus of this conference will bring important guidelines which should be widely disseminated for public knowledge. I wish this conference a great success.

Let us together create a truly wonderful scientific programme at ICIRSTM-2017 that matches the expectations of all.

I take this opportunity to congratulate the organizing team for the effort taken by each one of them to make this 1st International Conference a reality.

I wish them all a grand success.

Sumit Modi
Vice President
Modi Group of Educational Institutions

PRINCIPAL MESSAGE



It is matter of pride to welcome all the delegates and participants for International Conference on Innovative Research in Science, Technology and Management - 2017 (ICIRSTM-2017) on 22-23rd January, 2017 at Modi Institute of Management & Technology, Kota.

Modi Institute of management and Technology, Kota has been the crest jewel in the educational map of Kota. Its unrivalled excellence in education for the last 30 years has played pivotal role in imparting knowledge to the students. Science and Technology has evolved with incredible pace adding new dimensions and meaning to our knowledge and thoughtful implementation to our lives. I hope this conference provides a platform to bring together the scientists of Science, Management, Information Technology and Engineering. The conference will also provide the delegates to exchange new ideas and research. ICIRSTM-2017 attracts a wide spectrum of research papers on various aspects of science & technology with umpteen application, theories, techniques, experimental design and/ or experimental studies.

I hope that the papers contained in this proceeding will prove helpful towards improving the understanding of advances in science & technology at teaching level as well as research level and will inspire more and more researchers.

Dr. G.S. Bhatnagar
(Principal)

DIRECTOR MESSAGE



On behalf of Modi Institute of Management & Technology, it is a great pleasure and an honor to welcome invited dignitaries and enthusiastic delegates to the First International Conference on Innovative Research in Science, Technology and Management (ICIRSTM-2017) on 22-23 January-2017 at Kota , The Education City.

At MIMT, students are expected to have an enriching and life-turning experience which will enable them to reach new heights in their professional life. We foster sharpening of skills and enhancement of knowledge base in our students through various extra-curricular, co-curricular and curricular activities through faculty who not only keep themselves at par with the current developments but also contribute to the expansion of the body of knowledge in their field of expertise. The ICIRSTM-2017 Conference will provide a wonderful forum for you to refresh your knowledge base and explore the innovations in the area of Science Technology and Management. The Conference will strive to offer plenty of networking opportunities, providing you with the opportunity to meet and interact with the leading scientists and researchers, friends and colleagues as well as sponsors and exhibitors. In order to provide an outstanding technical level for the presentations at the conference, we have invited more than 60 distinguished experts in the respective fields to participate in the International Technical Committee as well as the members of National Advisory Board.

I would like to express my thanks to all authors for their outstanding contributions and in particular the members of the program board for their competent evaluation of the large number of submissions. Likewise I would also like to express my appreciation to the program and awards committee, as well as to the invited chairs for their careful preparation of the invited sessions.

To conclude, I am confident that this is going to be the best-quality Information Fusion conference we have yet experienced, and I believe that you, our highly appreciated audience and participants, will eventually agree with me on this point.

We hope you will join us for a symphony of outstanding science, and take a little extra time to enjoy the spectacular and unique beauty of this region.

With best wishes

Sincerely,

Dr. N.K. Joshi

Director, MIMT, Kota

Chief Patron**Smt. Bimla Modi**

President, Modi Group of Educational Institutions, Kota

Patron**Mr. Sushil Modi**

Vice President, Modi Group of Educational Institutions, Kota

Mr. Sumit Modi

Vice President, Modi Group of Educational Institutions, Kota

Chief Guest**Prof. Rajeev Gupta**

Pro Vice Chancellor, R.T.U. , Kota

Prof. P.K. Dashora

Hon'ble Vice Chancellor, University of Kota, Kota

International Speaker**Dr. S. N. Sulaiman (Professor)**

Northwest University, Nigeria

Conference Convener**Prof. N.K. Joshi**

Director, MIMT, Kota

Session Chair**Prof Ashu Rani**

Dept. of Applied & Pure Chemistry, University of Kota, Kota

Ms. Reshu Gupta

HOD, Electronics and Communication, RKGITM, Ghaziabad

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Prof. L.K. Dashora, Dean, College of Horticulture & forestry, J.Patan

Dr. H.R. Choudhary, Zonal Director, Agriculture Research Station, Kota

All the accepted and presented papers of the duly registered authors will be published in the following international journals

- **International Journal of Advance Research in Science and Engineering (IJARSE, ISSN-2319-8354) [www.ijarse.com]**
- **International Journal of Advance Technology in Engineering & science (IJATES, ISSN-2348-7550) [www.ijates.com]**
- **International Journal of Science Technology and Management (IJSTM, ISSN-2394-1537) [www.ijstm.com]**
- **International Journal of Innovative Research in Science and Engineering (IJIRSE, ISSN- 2454-9665) [www.ijirse.com]**
- **International Journal of Electrical & Electronic Engineering (IJEEE, ISSN-2321-2055) [www.ijeee.co.in]**

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