

**International Conference on**  
**Recent Advances in Science, Engineering**  
**and Management**  
**SEM-2024**

**Organized By:**



**Trinity Academy of Engineering, Pune**

**In association with IARDO & Conference World**



**Accredited by NAAC with 'A+' Grade**

(Approved by AICTE, New Delhi, Govt. of Maharashtra & affiliated to Savitribai Phule Pune University)

**Date: 30<sup>th</sup> November 2024**

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**International Conference on**  
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**and Management**

**SEM-2024**

**Editors**

**Dr. Rupesh J. Patil**

**Dr. Manoj K. Chaudhary**

**Dr. K. B. Gavali**

**Prof. Pratima R. Patil**

**Prof. D. D. Kulkarni**

**Prof. R. B. Lagdive**

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***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 Advances in Science, Engineering and Management (SEM-2024). 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 107 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 College**

KJ's Educational Institutes is established in the year 2005 with excellent infrastructure spread over 108 acres of green campus with spacious buildings having backdrop of Sahyadri hills.

KJEI's Trinity Academy of Engineering, Pune is established in 2010 located on 112 acres and 22,000 sqm constructed state of the art, world-class infrastructure. Campus is well equipped with best laboratories, workshops, libraries, hostel, canteen, sports facilities, transportation facility and other amenities to create conducive environment for students in attaining highest standards in academics, research and professional skills.

Challenges and Opportunities are two sides of the same coin. We take every care of all-round personality development of individual student along with academic excellence.

## **About the Conference**

International Conference on Recent Advances in Science, Engineering and Management (SEM-2024) aims to bring together leading academician, scientists, students and research scholars from around the world to exchange and share their experiences and research findings on all aspects of Engineering, Science & Management. It also serves as a prominent multidisciplinary forum for academics, practitioners, and educators to present and debate the most current breakthroughs, trends, and concerns, as well as practical difficulties and solutions in the domains of Engineering, Science & Management.

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## **Conference Convener**

Prof. Pratima R. Patil, HoD, IT Engineering,

## **Keynote Speakers:**

Dr. Simran Khiani, HoD, Comp., Engg, GHRCEM, Pune

Dr. Rupali Chopade, Associate Professor, DESPU, Pune

Dr. Surendra Waghmare, HoD, E&TC., Engg, GHRCEM, Pune

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### **Call for Papers**

You can contribute the paper in any language, the conference proceeding with ISBN will come in multilingual.

**Track 1 – Engineering:** Innovations in STEM Disciplines (Science, Technology, Engineering & MCA)/ Computer/ Energy/ Data Science/ Structural / E&TC/ IT/Clouds/Mechanical/ Automation/Applications of AI/ML/

**Track 2 – Business Management:** Business, Management, Agriculture Management Business Entrepreneurship, HR and Governance Policy, Business Management and Development, Tourism Management, Institute Management, Trade Management, Hospital Management.

**Track 3 – Social Sciences:** Politics, Sociology, History, Psychology, Philosophy, Law, Anthropology, Geography, Communication Studies, Organizational Studies, Educational Studies, Archeology, Economic Aspects, Internationalization, Globalization

## **Message by Principal**

As the principal of Trinity Academy of Engineering, I am proud to see our faculty, researchers, and students contributing to the advancement of their respective fields through their research and scholarship. It is through such collaborative efforts that we can address the pressing issues facing our society and bring about positive change.

I would like to take this opportunity to express my appreciation to all the participants who have participated in this conference. Your participation to this International conference shows your commitment to academic excellence and your passion for learning.

Once again, I would like to thank everyone involved in organizing this conference and wish you all a fruitful and productive experience.

Thank you.

**Dr. Rupesh J. Patil,**

Principal

Trinity Academy of Engineering, Pune

## **Message by Convener**

Dear esteemed participants,

It gives me great pleasure to welcome you all to the conference proceedings. As the convener of this event, I would like to express my sincere gratitude to each and every one of you for taking the time and effort to be part of this conference.

Our goal for this conference is to bring together a diverse group of researchers, practitioners, and scholars from various fields to exchange ideas and share their knowledge and experiences. Through this collaboration, we hope to foster innovation, enhance our understanding of the challenges facing our communities, and explore potential solutions that can improve the quality of life for all.

Together, we can make a significant contribution to the advancement of research and development in our respective fields.

Once again, I want to express my gratitude for your participation in this event. I look forward to an enriching and productive conference.

Thank you.

**Prof. Pratima R. Patil**

HoD & Assistant Professor,

Department of Information Technology



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. Proceeding of the conference has been published with ISBN: 978-93-91535-75-9. International Conference on Recent Advances in Science, Engineering and Management (SEM-2024) Organized by: KJEl's Trinity Academy of Engineering Accredited by NAAC with 'A+' Grade (Approved by AICTE, New Delhi, Govt. of Maharashtra & affiliated to Savitribai Phule Pune University) through online as well as offline with the collaboration of IARDO and Conference World on 30<sup>th</sup> November 2024

Total 155 papers were received for the conference and 107 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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**Agenda - International Conference on Recent Advances in Science, Engineering And Management**

**30<sup>th</sup> November 2024 (09:00 AM - 3:00 PM)**

SR.	Time	Activity	People Involved	Duration
1	9:00 AM	Registration	Mrs. Swagat Ebhad	30 mins
2	9:30 AM	Arrival of Speakers and Participants	Mrs. Swagat Ebhad	30 mins
3	10:00 AM	Welcome to all participants	Mrs. Swagat Ebhad	10 mins
4	10:10 AM	Worshipping of the Goddess Sarasvati & Lightening of Lamp	Mrs. Swagat Ebhad	5 mins
5	10:15 AM	Felicitation of Dignitaries	Mrs. Swagat Ebhad	5 mins
6	10:20 AM	Speech by Convener	Mrs. P. R. Patil	2 mins
7	10:22 AM	Speech by Principal	Dr.R.J.Patil	3 mins
8	10:25 AM	Speech by Executive Director	Maj.Gen.Sameer Kalla(Ret)	5 mins
9	10:30 AM	Speech by Technical Director	Prof.A.M.Fulambarkar	5 mins
10	10:35 AM	Speech By Chief Guest	Dr. Surendra Waghmare	2 mins
11	10:37 AM	Speech By Chief Guest	Dr.Simran Khiani,	2 mins
12	10:39 AM	Speech By Chief Guest	Dr. Rupali Chopade	2 mins
13	10:41 AM	Vote of Thanks	Mrs. Trupti Thite	5 mins
14	10:46 AM	National Anthem & Closing Ceremony	Mrs. Trupti Thite	5 mins
<b>Break</b>				
15	11:00 AM	Presentation in 3 Parallel Tracks(Room No: 308(COMP&MCA),312(IT&Civil), 314(E&TC&Mech)	All Dept. Coordinators	4 Hrs



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