

AICTE Sponsored

3rd International Conference On



**TECHNOLOGICAL
EMERGING CHALLENGES
in
Computer Science and Engineering**

ICTECCSE-2021

OCTOBER 20-21, 2021



Organized by

Department of Computer Science and Engineering

TIRUMALA ENGINEERING COLLEGE

JONNALAGADDA, NARASARAOPET

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**INTERNATIONAL CONFERENCE ON TECHNOLOGICAL EMERGING
CHALLENGES**

in

Computer Science and Engineering

20th - 21st October 2021

Editor(s)

Dr.Y.V.Narayana, M.Tech., Ph.D.

Dr. K. Satish, M.Tech., Ph.D.

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Invitation



Cordially invites you to the inaugural of 3rd

International Conference on Technological Emerging Challenges in Computer Science and Engineering

20th - 21st October 2021

Sponsored by AICTE and organized by

Tirumala Engineering College

Jonnalagadda, Narasaraopet, Andhra Pradesh

Chief Guest(s)

Prof Dr FirdosT.Shroff

*Global Motivation Guru and International Member,
World Constitution and Parliament Association, USA Talent Pool*

Dr.P.Venkatakrishna

Professor and Director, SPMVV, TIRUPATI

Conference Chair

Dr.Y.V.Narayana

Principal, Tirumala Engineering College

Date: 20-10-2021

Time : 10A.M

Venue: Arc Lab

Convener

Dr.K.Sathish

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20. Mr .Y.V.krishnateja,Asst.professor, Department of CSE

International Keynote Speakers

Prof Dr FirdosT.Shroff, [Foreign Chief Guest]

Global Motivation Guru and International Member,

World Constitution and Parliament Association, USA Talent Pool)

Dr. Abubakar Mohammad,

ModibboAdama University, Yola Nigeria, Foreign Keynote Speaker

Dr. Ahmed A. Elngar

Faculty of Computers & Artificial Intelligence

Beni-Suef University, Beni Suef City, Egypt

National Keynote Speakers

Dr.P.Venkata Krishna ,Professor and Director , Sri Padmavati Mahila University, Tirupati

Dr. Suma V , Professor & HOD, Dept of CSD , Dayananda Sagar College of Engg, Bangalore

Mr. Ankur Kumar, Assistant Professor & Head Research Cell, BIT, Gorakhpur

Prof.(Dr.) Prashant Singh, Professor & Head ,Information Technology ADGITM,New Delhi

Dr Gurcharan Dass, Principal, MM PG College, Fatehaabad, Haryana

Dr. Neha Jain, Professor & Head, Academician Serving in Indian Higher Education

Mr. Sunil Magan More, Asst Prof, Electrical Engineering, GGSERC, Nashik
Maharashtra

Invited Talk by

Prof. Abid Khan

Department of Mathematics, Saifia Science College, Bhopal, MP, India

Topic: Real Mathematics versus Fake Mathematics

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Preface

Tirumala Engineering College feels extremely delighted to bring the third International Conference on Technological Emerging Challenges in Computer Science and Engineering sponsored by AICTE. The term itself has significance as the contemporary lifestyle is centered on technology. Owing to the application of technology, our standard of living has increased. Our needs are met with greater ease. Technology has boosted every industry. Businesses have grown, creating more employment opportunities. Advancements in technology have led to the evolution of newer and faster modes of transport and communication. The computer and Internet technologies are ubiquitous. They have changed every sector; be it medicine, tourism, education, entertainment or any other. Technology has touched every aspect of life, making it easier, better, and different. Technology has changed living.

It is widely known fact that the objective of any technical invention is to lessen the human effort besides making lifestyle comfortable and serene. However, the other side of the coin, technology brings immense challenges of course which to be dealt meticulously. In this connection there is a need of solutions to face these emerging challenges in diverse fields of technology. Here comes the foremost reason of selecting the above-mentioned theme for this conference. The purpose of the conference is to provide a forum for discussion on the applications of technology by the domain experts from the industry and subject experts from the academia, and to welcome myriad solutions for the challenges we face as a global citizen across the universe. We have received nearly 250 papers in various disciplines.

We take this opportunity to thank our beloved management for their continuous support in terms of providing all the infrastructure and resources necessary for hosting the conference.

It's our responsibility to convey our gratitude and heartfelt thanks to our distinguished Principal Dr.Y.V. Narayana for creating us an opportunity to be a part of such an astounding conference.

We sincerely thank all our members, invited speakers, resource persons, authors, and delegates/participants without whom this international event would have been unconceivable.

We also thank functional /administrative groups of our college who have provided us all the logistic support and their helping hands in numerous activities related with the conference.

Last but not the least we thank each of our colleagues from all the departments who have been working untiringly for several days to make this grand event happen.

Convener

Profile of the College

Tirumala Engineering College is founded and funded by Tirumala Milk Products Pvt. Ltd. Is situated at Palnadu region, Jonnalagadda Narasaraopet Guntur –Dt. Andhra Pradesh. The college is exclusively to uplift the rural area background engineering students. The college was established in the year 2008 with the motto of giving a professional education for rural area students. Further the mission of the college as depicted on its axis, i.e., socio-ethical, and ecofriendly, entrepreneurial values as the inner strength of rural development.

The college campus is spread over in lush green area of 15 acres. The campus has serene atmosphere and provides the right ambiance for students for learning. The college is situated at 7 KM from the bus stand and railway station of Narasaraopet. College has the practice of giving a helping-hand for the students those who are in dire need of help. College has its own pride and strength because of its founder principal Dr.Y.V. Narayana and excellent staff members. College campus comprises hostels for students, computer center, central library, health center and skill development center in tune with the objectives.

The college is designed as to bring about applications potential among students. The institution covers classroom teaching and laboratory activities. The learning environment involves both live and simulated experiences. This college is distinct from other colleges. We proud to convey our college is one and only institution in and around Palnadu region. college got accreditation of both NAAC and NBA. Doctorates in various subjects are giving their valuable services in their respective departments. Tirumala Engineering College is blessed with multitalented students who are not only good at academics but also in various disciplines like sports, cultural events and NSS. Emphasis on

the value of extension of teaching and research programs. We had skill development center through this we are getting various projects.

Recently we have signed MOU with “Indo-European skill center for mechatronics and Industrial Robotics, in association with APSSDC. Our beloved Principal visited the Germany and participated in the conference and signed the agreement.

Head of the Institution
(Dr.Y.V. Narayana)

About The Conference

3rdInternational conference on Technological Emerging Challenges in Computer Science and Engineering Organized by Department of Computer Science, Tirumala Engineering College, Jonnalagadda, Narasaraopet, Andhra Pradesh, India. 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 Approved by UGC. Selected papers will be published in Scopus Index Journals.

About The Department of Computer Science and Engineering: A PROFILE

The Department of Computer Science and Engineering is leaving no stone unturned to enable the young brains to excel in the field of Technology as well as Software Engineering. Special focus is on overall personality development of the individual student and providing Industrial orientation to them. The Department is working towards imparting the latest trends technological Knowledge and honing the young minds to become Quality Engineers to be readily absorbed by the Industries. As many as young and dynamic staff members are putting in their best efforts and ideas to achieve the best results and make them viable in the present scenario of competitive world. The Department of CSE had 60 seats in the initial year of 2008-09, but now it has risen to 180. The Department seeks to combine excellence in education with service to the industry. The department has accredited twice by NBA. Our vision is to be recognized as innovative and leading Technology Department. Our goal is to provide students with a balance of intellectual and practical experiences that enable them to serve a variety of societal needs. The CSE Department has sufficient faculty members who are qualified in SLET/NET and expertise in their research. AAVARTHAN is a nonprofit Students’ association who are dedicated to

promote latest technologies in Software. It provides students with an opportunity to study, research and network in the technical arena.

Head of the Institution

Dr.Y.V. Narayana,
M. Tech, Ph.D. MIEEE, ISTE
Principal, Tirumala Engineering College
Narsaraopet-522601



Message

It is indeed a matter of immense pleasure to announce that Tirumala Engineering College is organizing third International Conference on ‘Technological Emerging Challenges in computer science and Engineering’ on 20th and 21st of Oct-2021.

I am confident that the conference discussions and the publication of the conference proceeding will bring opportunities among the academicians, corporate delegates, research scholars and students to present their innovative ideas, most up-to-date findings, and technical proficiency in the various fields of Research trends in Engineering and its applications.

On behalf of Tirumala Engineering College, I heartily welcome the Honorable Keynote Speakers, eminent academicians, corporate delegates and all the paper presentism to ICTECCSE.

Being a person who executed various responsibilities as a teacher, engineer, researcher, and an administrator, it came to my identification that ‘Indian Engineering’, unfortunately, centers on theoretical knowledge mostly rather practical.

In this connection, the foremost reason for conducting this International Conference is an enormous opportunity that the field of Engineering provides besides myriad challenges it poses on the society and the procedure to solve such challenges in a unified manner.

I take this opportunity to congratulate the organizing team for the effort taken by each one of them to make this 3rd International Conference a reality. I wish them all a grand success.



Dr.Y.V. Narayana
Conference Chair

Message from International Chief Guest

Prof Dr Firdos T. Shroff,

Ph.D;MBA;MA;LL.B;CAIIB;PGDIRPM;PGDCM;PGDBT; Fellow IIBF

Global Motivation Guru and International Member, Ambassador of Peace

World Constitution and Parliament Association, USA Talent Pool

Message

It is encouraging to celebrate the International Conference on Technological Emerging Challenges in Computer Science and Engineering at Tirumala Engineering College, Narasaraopet, Guntur (Dt) to gather experts in the field of computers and Engineering. This combines three important ingredients to succeed as a technical society developing technology to make our lives better. On one hand, we have the academia in close contact with students, the future engineers that very soon will take over the role of being highly-qualified professionals in technical companies either in India or abroad. On the other hand, we have researchers in industry to show their latest advances to transform research into real products.

We are experimenting very fast changes and evolutions that couldn't have taken place with the advances in the topics selected for the conference advance computer science. The revolution in wireless communication from the first 1G communications systems to the 5G relies on how fast

is electronics, how fast can we compute information, and how we can communicate such information from one point to another wirelessly. We are lucky to live this revolution in technology.

We should take the ICTECCSE-2K21 event as an excellent opportunity to share our advances in the field, to create synergies between different researchers in academia and industry, to analyze how technology is evolving, and finally to motivate our young engineers to do it better than us.

I sincerely hope that this conference will deliberate and discuss all the different facets of this exciting topic and come up with recommendations that will lead to a better, healthier, merrier world.

I wish the conference great success



Prof Dr Firdos T. Shroff

INTERNATIONAL KEYNOTE SPEAKER

Abubakar Mohammed,

Ph.D. (IT), M.Tech (IMT), B.Tech (ICT) MNCS, MIEEE, MASUU

Associate Editor, Journal of Advances in Management Sciences & Information Systems, Canada.

Senate Member Representing Faculty of Social & Management Sciences,
ModibboAdama University Yola, Nigeria.

Postgraduate Coordinator, Department of Information Technology,
ModibboAdama University Yola, Nigeria.

Email: ajungudo@mautech.edu.ng, ajungudo@gmail.com

Message

It is my pleasure to join this international event organized by Tirumala Engineering College. International Conference on Technological Emerging Challenges in Computer Science and Engineering is very timely at the present time. Technology has covered every aspect of human endeavour, therefore organizing international event like this will bring enormous researchers and scholars across the globe to discuss societal problems that can be addressed using technologies.

I therefore called on all the participants to work towards implementing their ongoing researches. This is because, researches in the field of computing and engineering requires successful implementation before they will have impact on the society. The recent outbreak of Covid-19 that affects the entire world is an eye opener to all of us in the field of computing and engineering. We need to sit up and ensure things continue to move on with technologies in order to reduce the risks of losing lives and economic

downfall of the communities. Attention should be given to adopting artificial intelligence in solving most of the societal problems

I wish all the participants successful listening and presentations of their research. I also congratulate the management of the college for organizing this great international event.



Dr. Abubakar Mohammed

Keynote Speaker

P. Venkata Krishna, Ph.D., SMIEEE

Editor-in-Chief, Int. J. of Smart Grid and Green Communications,
Inderscience, UK

Editor, Int. J. of Security and Privacy, Wiley

Associate Editor, Int. J. of Communication Systems, Wiley

Former Professor, VIT, Vellore, India

Professor and Director, Department of Computer Science,

Department of Computer Science and Engineering

Sri Padmavati Mahila University, Tirupati, AP, India

Email: dr.krishna@ieee.org, parimalavk@gmail.com



Message

I am happy that the Tirumala Engineering College, Narasaraopet is organizing ICTECCSE 2021—an International Conference on Technological Emerging Challenges. The dramatic growth in the production and sales volume of personal and desk top computers has been the manifestation of match between progress of technology and the volume of information processing in our daily life and work. The technology, however, does not stop on just satisfying the need of daily information processing which had only been attended by large computer systems earlier. Those physically small yet powerful computers, in coordination with the advent of Communication Networks, have become the tool to cultivate novel frontier of our intellectual life called Cyberspace.

It is said that the shelf life of knowledge in the field of Computer Science and related area is just about three years. Rapid dissemination of knowledge in this field is very essential lest it becomes obsolete before its use. Organization of conferences' such as ICTECCSE 2021 facilitates such rapid dissemination processes. I am sure that the papers to be presented in the conference will stimulate lively discussions and will lay the foundation for further research in these areas.

I wish all the success to this conference and all the best for organizers and delegates.



Prof. P. Venkata Krishna

Convener

Dr. Kuppani Sathish,

M. Tech, Ph.D., MIE, Sr. IEEE, MISTE

Professor,

Department of Computer Science and Engineering

Tirumala Engineering College

Narasaraopet, Guntur (Dt)



Message

It is great honor to be the Convener for the third International Conference on Technological Emerging Challenges in Computer Science and Engineering (ICTECCSE-2K21). I am very hopeful and confident that this conference will be successful in providing a forum of the Researchers, Professional, Industry Experts and Academicians who came all the way from across the country and abroad to exhibit, exchange and enrich their ideas and knowledge, demonstrate their research capabilities, and contribute to research in their domain of interest. It will enlighten for broader perspective to allow further analysis and exposure on Technical Emerging Challenges in Computer Science and Engineering.

This conference addresses many fundamental aspects of various innovative challenging Technologies like Computing, Machine learning with artificial intelligence, Data Science, Communications and Data Engineering that most of us have in common. It is gratifying to note that ICTECCSE 2021 has received tremendous support from the Industries and academia alike.

For nations like ours, information and communication technologies are the key success factors in the knowledge-based economic scenario. With the society increasingly becoming mobile and a lot of high-end development getting outsourced, the theme of conference is very apt and would be of a great interest to our faculty members, researchers and budding ICT professionals and future technologists.

I wish all the success to this conference and all the best for organizers and delegates. I wish the deliberations of the conference a grand success.



Dr. Kuppani Sathish

Proceeding of the International Conference has been published with ISBN:978-93-91535-11-7 On Technological Emerging Challenges in Computer Science and Engineering Organized by Department of Computer Science and Engineering, Tirumala Engineering College, Jonnalagadda, Narasaraopet, Andhra Pradesh on 20th- 21st October 2021. Total 170 papers were received for the Conference and 71 papers were shortlisted by the committee after blended review. The international Conference was organized in on campus and through online Googlemeet platform also those who are not willing to attend the international conference due to the covid19 pandemic situation. 7 tracks were run in parallel in two sessions during these two days.

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