Proceedings of the International Virtual Conference
on Recent Trends in Materials Science
IVCRTMS 2020

November 16th, 2020

Organized by

DEPARTMENT OF PHYSICS
KRISTU JAYANTI COLLEGE (AUTONOMOUS)
K. Narayanapura, Bangalore – 560077
Karnataka, India

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Message From Principal

Materials make modern life more comfort—from the polymers in the chair you’re sitting on, the metal ball-point pen you’re using, and the concrete that made the building you live or work in, to the materials that make up streets and highways and the car you drive. All these items are products of materials science and technology. Good science produces theories that are explored through experimentation and the experiments depend upon the theories for direction. The discipline of Physics of materials is one such technology with ancient roots. The fundamental feature of human intelligence is creativity. New ideas can be created by producing novel combinations of familiar ideas, by exploring the potential of conceptual spaces and by making transformations that enable the generation of previously impossible ideas.

I congratulate the Department of Physics for the initiatives taken to bring the researchers across the nation in a common platform. I am confident that this conference will provide a stage to present and share the research findings for further enhancement and perfection. I am delighted to note that the accepted papers are being published in *IOP Conference Series: Materials Science and Engineering (MSE) – a SCOPUS indexed journal*.

I wholeheartedly appreciate all the sincere efforts of the entire team of IVCRTMS 2020 and wish them a grand success.
Message From Dean

Materials science combines many areas of science such as chemistry, physics, and engineering to make better, more useful, and more economical and efficient “stuff”. Because of the interdisciplinary nature of materials science, it can be used both science and engineering.

IVCRTMS 2020 strives to be one of the most far-reaching meetings concentrated on the different aspects of Physics and Materials Science. It is certain to be the stage for scholastic and industry experts to examine ongoing advancement in the fields of physics, materials science and allied fields. The reason for this gathering is to make a logical commitment to the field of physics through dialogues and publications.

Special appreciation to the convenors and the organizing committee. We trust the delegates can acquire useful information from the proceedings. We look forward to the contributions during discussions and publications providing the foundation for future developments in this field.

On behalf of the Organizing and Advisory Committee we take great pleasure in welcoming the delegates to the conference to foster the progress in the field by contributing with your expertise.
Message From Conference Chair

Technology has taken the forefront surpassing agricultural transformation and industrial revolution. The fields of Physics and Materials Science has expanded to include numerous parts of processing and innovation, and these terms are more conspicuous than any other time in recent memory.

The International Virtual Conference on Recent Trends in Materials Science (IVCRTMS 2020) conceives to unite interdisciplinary analysts researching the interface between Physics and Materials Science. Discussions as this will be instrumental in creating novel strategies for research and development. We sincerely believe this virtual gathering will be a platform for scientific exchange of ideas and to provide an opportunity for the dissemination of the latest results in research among the range of experts in the field Physics and Materials Science.

I sincerely hope that one day of healthy interactions and proactive exchange of ideas will prove to be fruitful and contribute immensely to our mutual growth. I congratulate the participants, Delegates, Organizing Committee, faculty members and students for their outstanding contribution in organizing this conference successfully.
Message From Conveners

This virtual conference aims at disseminating knowledge in the domains of Science and Engineering. The Conference will be an opportunity to reflect on what has been happening in the field of Science and Engineering, to share the experiences, perspectives and responses to the challenges faced by the researchers, and to give thought to set new directions for the future. The Conference will provide a platform for experts from academia and industry, to showcase their latest findings in the areas of expertise, that include physics and chemistry of advanced materials in Medical, Engineering, Nanotechnology, Environmental Technologies, Biomaterials and Green Chemistry. It is also a forum for the dissemination of original research findings, new ideas and practical experiments, which focus on both theory and practice.

The conference is expected to disseminate the global knowledge in the domain of Materials Science which covers the sub-topics of: Crystal growth and Crystallography / Nanoscience and Technology / Bio and Nanosensors / Solar cells and Photovoltaic devices / Energy Storage Materials / Polymers and Nanocomposites.

We extremely thank our management, Keynote speakers, advisory committee members, participants, reviewers, session chairs, organizing committee Members and all those who have helped us to organize this International Conference and to make it a success.

We thank our publication partner IOP Science Publishing for publishing the accepted papers in the *IOP Conference Series: Materials Science and Engineering (MSE) – a SCOPUS indexed journal.*

*Dr. Ambrose Rajkumar M.*

*Dr. Anoop Baby K. B.*
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