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Director, KIET Group of Institutions, Ghaziabad, U.P.

## Editorial

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In the world of communication, the study of various analog and digital modulation techniques like AM, FM, ASK, PSK and FSK using Virtual Experiments designed using LabVIEW. The developed tool can generate and display the modulated signal in time and frequency domain very efficiently and accurately. The user will specify the modulation parameters like amplitude, frequency, phase and noise levels, and the modulated signal will be displayed on the Front panel.

Fiber optic systems are important telecommunication infrastructure for world-wide broadband networks. Wide bandwidth signal transmission with low delay is a key requirement in present day applications. Optical fibers provide enormous and unsurpassed transmission bandwidth with negligible latency, and are now the transmission medium of choice for long distance and high data rate transmission in telecommunication networks.

A simulation designed to test real-time path planning done by single and multiple agents. The components of the simulation include a road network, several Uninhabited Aerial Vehicles (UAVs) with electro-optic sensors, a target and an Uninhabited Ground Vehicle (UGV). The task of the UAVs is to scan the road network and find the optimal clear path for the UGV. The simulation ends when the optimal path is found or no clear path exists.

Dual band multiband microstrip patch antenna based on complementary split ring resonator (CSRR) is at the ground plane. The antenna is working at frequencies 6.3 GHz and 7 GHz. The antenna has a application in wireless frequency.

Quad band microstrip patch antenna with loaded CSRR has been developed. Since a microstrip patch antenna works only on one resonant frequency so converting that into a multiband patch antenna would enhance the bandwidth and also utilizes the multiple frequencies of operation.

Cancer treatment using Photodynamic therapy (PDT) that uses special drugs, called *photosensitizing agents*, along with light to kill cancer cells. The use of nanotechnology in cancer treatment offers some exciting possibilities, including the possibility of destroying cancer tumors with minimal damage to healthy tissue and organs, as well as the detection and elimination of cancer cells before they form tumors.

In the recent decades, there has been a huge energy demand due to the exponential increase of the human population and consequently, the depletion of non-renewable energy sources. This creates the need to explore alternate routes for renewable energy resources. The solar energy was the best alternative of the conventional energy system in last few decades, but because of intermittent energy and huge land area requirement it is the need of the hour to look for an alternate solar energy system. Space-based solar power (SBSP) is a step towards this technology to overcome the limitation of intermittent supply as solar energy is always available in the space.

A new approach for the development of planar metamaterial structures is developed. With the development of metamaterials in recent years, more and more interests have been attracted in the potential applications of these novel materials. For this purpose, split-ring resonators (SRRs) coupled to planar transmission lines are investigated. The electromagnetic behavior of these elements, as well as their coupling to the host transmission line, is studied.

# Preface

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**Dear Researchers,**

We take this opportunity to welcome you all to the Volume No 7, Issue No. 1 of International Journal of Communications & Electronics (KIET - IJCE). This journal will provide a forum for in depth and substantial discussions on the theory, design and implementation of the emerging technologies in Communications, Networking, Microwave and Electronics techniques, thus providing solutions and strategies for business resilience.

It gives us an immense pleasure to have an amalgam of researchers from the fields of Communication Engineering, Electronics, and related technologies. The purpose of the Journal is to provide a platform to foster interdisciplinary communication among the delegates and to support the sharing process of diverse fields in various concepts and principles related to these domains.

Our appreciation also goes to entire team whose dedication and timeless efforts have gone for number of days for the second issue of the Journal.

**Editors**



## Message

I am delighted to note that the Department of Electronics and Communication Engineering, KIET Group of Institutions, Ghaziabad is introducing Volume No 7, Issue No. 1 of International Journal of Communications and Electronics (KIET - IJCE).

I appreciate the efforts on the part of the Editorial Committee in bringing out an issue on Communications, Networking, Microwave and Electronics techniques.

I understand that the papers contributed for publication in the Volume No 7, Issue No. 1 are on almost all the current aspects of Communication Systems, Electronics systems, Microwave Engineering, Signal Processing & Applications, Networking Technologies and several others.

I have great pleasure in congratulating the Editors of this issue of KIET - IJCE for their untiring efforts in bringing out this seventh Volume No 7, Issue No. 1 of KIET-IJCE which will be a valued treasure for all who pursue research in Communications, Networking, Microwave and Electronics Engineering areas.

Let me close with warmest regards.

Dr. (Col) A Garg  
Director  
KIET



It is our pleasure that KIET is releasing the sixth volume of International Journal of Communications and Electronics (KIET - IJCE). Education is the base for building a good nation and we feel proud to be the contributor of such transformational nation.

I appreciate the efforts on the part of the Editorial Committee in bringing out an issue on Communications, Networking, Microwave and Electronics techniques.

I have great pleasure in congratulating the Editors of this issue of KIET - IJCE for their untiring efforts in bringing out this seventh Volume No 7, Issue No. 1 of KIET-IJCE which will be a valued treasure for all who pursue research in Communications, Networking, Microwave and Electronics Engineering areas.

Dr Manoj Goel  
Joint Director  
KIET



## Message

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It gives me immense pleasure in writing this foreword for the Volume No 7, Issue No.1 of the KIET International Journal on Communications and Electronics (KIET - IJCE). This journal is targeted towards researchers, professionals, educators and students to share innovative ideas, issues, recent trends and future directions in the fields of Electronics and Communication Engineering.

The Volume No 7, Issue No. 1 of the journal KIET-IJCE includes papers on the theory, design and implementation of the emerging technologies in the field of Communications, Networking, Microwave and Electronics techniques. Furthermore, it will enable the researchers in various domains to foster the exchange of concept, prototypes, research ideas and the results of research work which could contribute to the academic arena and also benefit business and industrial community.

**Dr. Sanjay Sharma**  
Editor – in - chief  
KIET - IJCE