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Information, Control, and
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for Agricultural Engineering***

Honghua Tan
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Jun Wang, IEEE Fellow, Faculty of Engineering, The Chinese University of Hong Kong (Hong Kong)

Introduction

The 2013 3rd International Conference on Photonics and Image in Agriculture Engineering (PIAGENG 2013) was held 27–28 January 2013 in Sanya, China.

PIAGENG 2013 is the most comprehensive conference focused on the various aspects of advances in photonics and image in agriculture engineering. The goal of this conference is to bring together the researchers from academia and industry, as well as practitioners to share ideas, problems, and solutions relating to the multifaceted aspects of photonics and image in agriculture engineering.

Wireless communication is the transfer of information between two or more points that are not connected by an electrical conductor. The most common wireless technologies use electromagnetic wireless telecommunications, such as radio. With radio waves, distances can be short, such as a few meters for television remote control, or as far as thousands or even millions of kilometers for deep-space radio communications. It encompasses various types of fixed, mobile, and portable applications, including two-way radios, cellular telephones, personal digital assistants (PDAs), and wireless networking. Other examples of applications of radio wireless technology include GPS units, garage door openers, wireless computer mice, keyboards and headsets, headphones, radio receivers, satellite television, broadcast television and cordless telephones. Less common methods of achieving wireless communications include the use of light, sound, magnetic, or electric fields.

Optical communication is any form of telecommunication that uses light as the transmission medium. It can be performed visually or it can be undertaken in an electronic form. Early forms of visual optical communications date back several millennia. An optical communication system uses a transmitter, which encodes a message into an optical signal, a channel, which carries the signal to its destination, and a receiver, which reproduces the message from the received optical signal. The earliest electrical form of optical communication was the photo phone, invented in 1880. Free space optical communication has been deployed in space, while terrestrial forms of optical communication are limited by geography, weather and the availability of light.

I wish to express my appreciation to all the members of organizing committee, academic committee and program committee as well as the referees, staff, and volunteers for their tremendous efforts and dedication. Without their hard work and excellent jobs, it was impossible to lead the success of this book.

Honghua Tan

