Advances in Intelligent Systems and Computing 687

Plamen Angelov
Jose Antonio Iglesias
Juan Carlos Corrales *Editors*

Advances in Information and Communication Technologies for Adapting Agriculture to Climate Change

Proceedings of the International Conference of ICT for Adapting Agriculture to Climate Change (AACC'17), November 22–24, 2017, Popayán, Colombia

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Preface

Agriculture is a significant economic activity for almost every country in the world, but this one is highly exposed to climate change since it assumes that the farming production depends on weather conditions. Therefore, different research challenges have been proposed and established to improve the sector's profitability. In this sense, over the last decade, the Informatics and Communication Technology (ICT) has emerged as a solution to improve the agricultural production. This trend can be reflected in the multiple software applications that provide services to lessen the effects caused by diseases and pests in crops, or in the real-time monitoring of weather conditions and the water quality parameters used for production. Management activities, decision-making, and management of complex events are cornerstones assumed by the ICT solutions applied to the agriculture.

This international conference looked at emerging problems and new ICT solutions to address the effects of climate change and climate variability on agricultural sector, proposing common strategies and guidelines for incorporating risk management and adaptation to climate change. Topics such as smart farming, systems for prediction of disease or pests, water efficiency, climate and its effects on crop production, land cover modeling for forest and crop systems, remote sensing for crop production and management, meteorological data integration for agriculture were covered by the authors.

The conference was organized by the Inter-Institutional Network for Climate Change and Security Food of Colombia—RICCLISA, COLCIENCIAS, University of Cauca, Colombia (Telematics Engineering Group) and the Carlos III University of Madrid, Spain (CAOS research group), and technically sponsored by Springer.

The conference received 29 submissions from 68 authors from 9 countries. This volume collects 19 papers accepted and presented, confirm thus ascertaining its status of the international event. The papers were grouped into the following sessions: decision support and early warning systems for agriculture, sustainable water management, predictive models of growth and crop production, land cover dynamics for agricultural systems, and networking for supporting the adaptation of climate change and food security.

This conference provided a friendly atmosphere and will be a leading international forum focusing on discussing problems, research, results, and future directions in the application of information and communications technology to solutions that allow improving the agricultural production in climate change scenarios.

Finally, we would like to thank the hard work and dedication of the Program Committee members and Organizing Committee members. Thank you.

September 2017

Juan Carlos Corrales
José Antonio Iglesias
Plamen Angelov
Conference General Chairs

Organization

AACC 2017 was organized by Red Insterinstitucional de Cambio Climático y Seguridad Alimentaria de Colombia—RICCLISA, Departamento Administrativo de Ciencia, Tecnología e Innovación COLCIENCIAS—Colombia, Universidad del Cauca—Colombia, Universidad Carlos III de Madrid—España, and Centro Regional de Productividad e Innovación del Cauca CREPIC—Colombia.

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