

Guest Editorial Preface

Special Issue of EFITA-WCCA 2017

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After Italy and Poland, the 2017 edition of the EFITA conference was held in Montpellier, France (www.efita2017.org). It was the 11th of the series. It was a great pleasure to welcome participants to the Ecole Montpellier SupAgro for three days of exchange, and one day for technical visits, around the theme of ICT and agriculture. The conference was organized by Jean-Pierre Chanet, Bruno Tisseyre and Olivier Naud.

The conference is supported by the European Federation for Information Technology in Agriculture, Food and the Environment (EFITA), and was in 2017 the World Congress on Computers in Agriculture and Natural Resources (WCCA) on behalf of the International Network for Information Technology in Agriculture (INFITA). Irstea and Montpellier Supagro organised the congress with partnership of AFIA, EFITA board, the digital networks of French technical agricultural institutes, and the Digital Agriculture Convergence Lab #digitAg.

The review process allowed for 82 oral presentations, 30 posters and 15 demonstrations. We express our thanks to all those who participated in this review process. In the end, the proceedings based on extended abstracts include 74 regular talks, 19 flash talks to introduce posters, and 4 keynotes. Sessions included management and optimization, data acquisition and analysis, smart farming applications and services, decision support systems, the web – the field – the farm - the business, from field to food – process, networks, e-business, the food chain and agricultural ICT policies, simulation and models for agriculture, remote sensing and planning, sensing – robotics – and sensing for agriculture, semantic interoperability and knowledge management, big data – analytics and visualization. The associated workshop IN-OVIVE (International Workshop on sources and data integration in agriculture, food and environment using ontologies) included 4 other talks with full-paper proceedings.

Authors had the opportunity to provide a full text and to submit it to one journal in partnership with the conference. We thank the editors of International Journal of Agricultural and Environmental Information Systems (IJAEIS) for their kind co-operation.

6 papers have been selected after a peer review process for publication in this EFITA-WCCA 2017 special issue. The first paper presents a method to assess possible options, based on an argumentation modeling and a simulation of system dynamics, for deliberation processes. The authors assess various options for agri-food chain stakeholders in the context of the adoption of cereal-legume intercrops as an alternative to sole crops. The second paper introduces a computational system integrating hardware and software components for precision livestock and nutritional supplement management. The third paper presents a decision support tool for the management of shellfish growing areas. This tool helps decide which shellfish growing areas should be closed and which ones should be open for harvest. The fourth paper describes a new procedure to support decision for agro-waste management analysis

and valorization routes in agriculture. This approach takes into account issues from agricultural engineering, using the computational social choice and argumentation framework. In the fifth paper, the authors propose an implementation of a dynamic simulation model for grazing lactating dairy cows that predicts milk production and profit over feeding based on ruminal digestion and absorption of nutrients under discontinuous feeding schedules. The sixth paper, presented during the IN-OVIVE workshop, shows the deployment of a registry of 9 semantic automated discovery and integration Web services for the federation and processing of agricultural data. The goal was to expose data from a variety of different data resources.

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