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Christopher M. U. Neale
Antonino Maltese
Editors

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Introduction

This proceedings volume contains papers presented during the conference on Remote Sensing for Agriculture, Ecosystems, and Hydrology XII. The conference was part of the 17th International Symposium on Remote Sensing sponsored by SPIE. The symposium was held at the Centre de Congrès Pierre Baudis, Toulouse, France, from the 20th to 23th of September 2010.

The conference is dedicated to providing rapid dissemination of scientific and technical information, and attracted scientists and professionals from throughout Europe, Africa, Asia, and the Americas. Approximately 50 oral and 25 poster presentations were given, covering a broad range of topics in the field of remote sensing applications in environmental science.

The program was organized according to major themes, with 10 sessions on Agriculture: Land Use and Change Detection, Biophysical Vegetation Variable Retrieval, Drought and Crop Monitoring, Precision Farming and Irrigation Management, Vegetation and Crop monitoring; Ecosystems: Estuarine and Coastal Applications, Hydrology: Hydrological and Ecosystem Modelling (2), Lidar and Radar Applications in Hydrology (2), Energy Balance and Evapotranspiration and a SMOS Joint Session with with Conference 7826: Sensors, Systems, and Next-Generation Satellites. The poster presentations also had good representation from the above mentioned themes. The presentations described both fundamental and applications-based research activities from modelling, to laboratory and field experiments, to operational applications. The oral program also includes three invited speeches: Yann H. Kerr of Ctr. d'Etudes Spatiales de la Biosphère gave a speech on the subject "SMOS: from concept to operations and from operation to the next generation"; Frédéric Baret of Centre Inra PACA - Recherches Avignon (Environnement Méditerranéen et Modélisation des Agro-Hydrosystèmes) gave a speech on the subject "Estimation of vegetation biophysical variables from remote sensing observations" within the session Biophysical Vegetation Variable Retrieval; John Prueger of USDA Agricultural Research Service (National Soil Tilth Lab) gave a speech on the subject "Surface flux processes and evolution of characteristic eddy scales over dry land and irrigated surfaces in response to saturation deficit advection"; A short report on the SMOS Joint Session and introductory overviews of the state of the art and perspective of the invited speeches are reported afterwards.

We extend our thanks to the Session chairs (Katja Richter of Ludwig-Maximilians-Univ. München and Francesco Vuolo of Univ. of Southampton and Goffredo La Loggia of Univ. degli Studi di Palermo and Yann H. Kerr of Ctr. d'Etudes Spatiales de la Biosphère), and to the presenters for their efforts and to the participants for their insightful questions and discussions. Special thanks are also due to the host city for the excellent venue and to the SPIE organizational staff for their support

prior to, during, and after the symposium. We look forward to an even more successful conference in 2011.

Christopher Neale
Antonino Maltese