

## PREFACE

Eight years after the First Workshop on Robotic Autonomous Observatories, the number of automatic astronomical facilities worldwide continues to grow, and the level of robotisation, autonomy, and networking is increasing as well, with further strong impact in many astrophysical fields, like the search for extra-solar planets, the monitoring of variable stars in our Galaxy, the study of active galactic nuclei, the detection and monitoring of supernovae, the immediate follow-up of high-energy transients such as gamma-ray bursts and recently, the detection of the electromagnetic counterparts to gravitational waves, in this new Era of Multimessenger Astronomy. In fact a special session was dedicated to gravitational waves, in coincidence to the press conferences world-wide on Oct 16 announcing the first detection of an electromagnetic counterpart of gravitational waves (achieved by autonomous and robotic telescopes). Another special session was focused on space debris.

The manuscripts published in these Conference Series of the Revista Mexicana de Astronomía y Astrofísica are the fruit of the V Workshop on Robotic Autonomous Observatories held in Mazagón, Huelva (Spain) on October 16-20, 2017. The main focus of the workshop was to deal with the new and existing astronomical facilities whose goal is to observe a wide variety of astrophysical targets with no (or very little) human interaction. The workshop became an international forum for researchers to summarise the most recent developments and ideas in the field, with a special emphasis given to the technical and observational results obtained within the last two years.

The workshop was hosted in Parador Nacional “Cristobal Colón” in Mazagón, Huelva (Spain), The Parador is located in the very heart of Doñana Nature Reserve, a protected environment with beaches of fine white sand. At a few minutes’ walk down from the Parador, the quiet and exclusive Playa de Castilla beach, bathed by the Atlantic Ocean, was the perfect place to walk and ride horses at the sunset or to watch the bioluminescent plankton at the midnight, just swimming 20 or 30 m from the shore, as is becoming a tradition following the AstroRob conference dinners as some of the participants did (an unforgettable experience!). And at few kilometers away we also enjoyed visiting the Doñana National Park (the largest one in Europe) and the Historical Columbus places (such as the Wharf of the Caravels and Palos de la Frontera harbor, from which Columbus left on 3 Aug 1492 to discover America).

The Workshop was organized by both the Instituto de Astrofísica de Andalucía of the Spanish Research Council (IAA-CSIC) and the University of Huelva, with the support of the Instituto Nacional de Técnica Aeroespacial (INTA) at the INTA-CEDEA site in El Arenosillo (including the ESAt and Solar research areas, hosting the BOOTES-1 robotic observatory), which we also have the chance to visit during the Workshop.

We want to thank the members of the Scientific Organizing Committee (SOC): J. Bai, A. J. Castro-Tirado (chair), V. Connaughton, S. Guziy, L. Hanlon, D. Hiriart, R. Hudec, V. Lipunov, L. Mankiewicz, S. B. Pandey, C. Pérez del Pulgar and F. Özeren for arranging an excellent scientific programme, and express our gratitude to the members of the Local Organizing Committee (LOC): R. Cunniffe, Y. Hu, F. Rendón, T. Mateo (chair), J. C. Tello, and B.-B. Zhang. Together with the Oficina de Turismo Mazagón, they made of the staying of the 60 participants (and accompanying persons) in Huelva location an unforgettable experience.

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We also thank Irina Guziy for designing the nice Workshop announcement poster, and María Eva Alcoholado-Feltström for her assistance as Workshop secretary in order to achieve a perfect organization.

Finally we want to devote this publication to the memory of both Francisco Manuel Sánchez Moreno (who attended the 2013 Workshop and left us suddenly in August 2015) and the navy captain Javier Montojo Salazar (who used to work on space debris observations at the Navy Royal Observatory in San Fernando and passed away in March 2018 during a mission in Antarctica).

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