

# Preface

The Sant Cugat Forum on Astrophysics<sup>1</sup> is a framework meant to host international meetings on violent and energetic phenomena in the Universe happening both at Galactic and extra-Galactic scales. Among the meetings hosted by the Forum, the most recognizable will be the Workshop sessions focusing on a specific aspect of astrophysics, like the one this book is about. These will typically be held every two years, with a typical size of 100 persons, hosting many plenary talks, and having a duration of about four days. The Forum has been established under the auspices of the Sant Cugat City Hall, the Institute for Space Sciences (ICE-CSIC), the Institut d'Estudis Espacials de Catalunya (IEEC), and the Institució Catalana de Recerca i Estudis Avançats (ICREA).

The inaugural meeting of the Forum, which we are pleased to report on with this book, has been about the High-Energy Emission from Pulsars and their Systems. The aim of this meeting was to address, in a global context, the current knowledge and challenges on the high-energy emission from isolated and non-isolated neutron stars, as confronted with observations of both the Fermi satellite (and its main experiment: the Large Area Telescope) and the currently operating ground-based Cherenkov telescopes (like MAGIC, H.E.S.S., and VERITAS). Participants have also discussed the prospects for possible observations with planned instruments across the multi-wavelength spectrum (e.g. SKA, LOFAR, E-VLT, IXO, CTA) and how will they impact on our theoretical understanding of these systems. Following the Forum intentions, this book does not represent only the proceedings of such meeting, but also, a reflection on the state-of-the-art in the topic.

The Forum enjoyed an inaugural act presided by the Sant Cugat Major, the Exmo. Sr. LLuis Recoder i Miralles, which was followed by a public talk by Prof. J. Bell-Burnell. This talk has been simultaneously translated from English to more than 500 attendees, among them, many local high-school students. The organizers warmly thank Prof. J. Bell-Burnell and Mr. Recoder i Miralles for their substantive support

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<sup>1</sup> Its website is <http://www.ice.csic.es/research/forum> .

and commitment in giving the Forum such an stellar start. Also a first-timer, this meeting saw the presentation of the initial Sant Cugat Forum on Astrophysics Award given to the best presentation by a Young Scientist. It was given to Mr. Xue-Ning Bai, for his work on *Modeling of gamma-ray Pulsar Light Curves from Force-Free Magnetosphere*, which is included in this volume.

Before putting this volume in the hands of its readers, hoping that it will contribute as a reference work of such an amazingly evolving field, it is then very appropriate, and a pleasure, to warmly thank Prof. J. Bell-Burnell, and the Scientific Organizing Committee (SOC), who have helped us shape the content and direction of the Workshop. The SOC was formed by

Jonathan Arons (University of Berkeley, USA)  
 Wlodek Bednarek (Lodz University, Poland)  
 K. S. Cheng (Hong Kong University, China)  
 Okkie de Jager (Potchefstroom, South Africa)  
 Guillaume Dubus (LOAG, France)  
 Alice Harding (NASA / GSFC, USA)  
 Kouichi Hirotani (TIARA, Taiwan)  
 Gianluca Israel (INAF, Italy)  
 Simon Johnston (CSIRO, Australia)  
 Sandro Mereghetti (IASF, Italy)  
 Nanda Rea (IEEC-CSIC, Spain)  
 Olaf Reimer (Innsbruck University, Austria)  
 Diego F. Torres (ICREA / IEEC-CSIC, Spain).

The meeting would have been impossible without the help of the local organization, which was formed by

Anna Bertolin (IEEC)  
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 Daniela Hadasch (IEEC-CSIC)  
 Pilar Montes (IEEC)  
 Delfi Nieto (IEEC)

and especially, without the support of our sponsors: the Institució Catalana de Recerca i Estudis Avançats (ICREA), who presented us with its prestigious Conference Award for the organization of this meeting, the Institut d'Estudis Espacials de Catalunya (IEEC), the Institute for Space Sciences (ICE-CSIC), and the Agència de

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Some ideas can never flourish without the far-reaching vision of those extraordinary persons that provide unfading support to projects that otherwise could only be qualified as chimeras. In this case, this person is Valentí Feixas i Sibila, Director of Cultural Affairs of the Sant Cugat City Hall.

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*Nanda Rea*  
*Diego F. Torres*

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Rea, N.; Torres, D.F. (Eds.)

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