

**PROYECTOS PROGRAMA "ASTROFÍSICOS RESIDENTES 2024"**

**ESPECIALIDAD DE INVESTIGACION ASTROFISICA**

Nº	DIRECTOR/CO-DIRECTOR/TUTOR	TITULO PROYECTO
<b>COSMOLOGY AND ASTROPARTICLES – COSMOLOGÍA Y ASTROPARTÍCULAS (DIRECTORES: DRA. ALICIA LÓPEZ ORAMAS Y DR. RICARDO T. GÉNOVA SANTOS)</b>		
65	Dr. Ricardo T. Génova Santos (Director)	"The LiteBIRD CMB mission. Calibration, instrument systematics and study of the impact of foreground contamination on the detection of primordial B-modes from inflation"
57	Dr. José Alberto Rubiño Martín (Director)	"Characterizing the radio emission from our Galaxy: clearing the path to inflation's B-modes and cosmological spectral distortions"
35	Dra. Josefa Becerra González (Directora) y Dr. J.A. Acosta Pulido (Co-Director)	"Exploring the extreme extragalactic gamma-ray sky through relativistic jets"
33	Dr. Carlos Hernández Monteagudo (Director)	"Constraining the cosmological chemical enrichment during the Dark Ages and the End of Reionization Era with observations of the Cosmic Microwave Background Radiation"
29	Dr. Juan Cortina Blanco (Director); Dra. Alicia López Oramas (Co-Directora) y Prof. Ramón García López (Tutor)	"Ultrahigh angular resolution at Roque de los Muchachos: zooming into stars and their surroundings"
28	Dra. Alicia López Oramas (Directora); Dr. Juan Cortina Blanco (Co-Director) y Prof. Ramon García López (Tutor)	"Extreme Universe: unveiling the Galactic very-high-energy gamma-ray sky"
20	Dr. Jorge Martin Camalich (Director) y Dra. Arianna di Cintio (Co-Directora)	"Tracing the properties of dark matter with stars at the centre of low-mass halos"
<b>GALAXIES FORMATION AND EVOLUTION – FORMACIÓN Y EVOLUCIÓN DE GALAXIAS (DIRECTORES: DRA. ANNA FERRÉ MATEU Y DR. HELMUT DANNERBAUER)</b>		
72	Prof. John E. Beckman (Director) y Dra. Almudena Prieto (Co-Directora)	"Forming stars next to Super Massive Black Holes"
70	Dra. Begoña García Lorenzo (Directora) y Dra. Francesca Pinna (Co-Directora)	"Zooming in and out: the evolutionary connection between galactic nuclei at small scale and the global galaxy at larger scale"
67	Dra. Francesca Pinna (Directora) y Dr. Ignacio Martín Navarro (Co-Director) Dra. Annalisa Pillepich (AP, Max Planck Institute for Astronomy, Heidelberg)(Co-Directora)	"Uncovering the first stages of galaxy evolution: the formation of thick disks across environments in the full cosmological context"
59	Dr. Jorge Sanchez Almeida (Director) y Dr. Sebastian F. Sanchez (UNAM, Mex.) (Co-Director)	"Distinguishing star-forming galaxies from active galactic nuclei in high-redshift JWST spectra"
58	Dra. Carmen P. Padilla-Torres (Directora) y Dr. Jordi Cepa Nogué (Co-Director)	"The study of the population of low-mass galaxies at intermediate redshifts"
31	Dr. Jordi Cepa Nogué (Director) y Dra. Carmen Pilar Padilla Torres (Co-Directora) y Dr. Miguel Sánchez Portal (IRAM)	"The puzzle of (U)LIRG metallicity"
54	Dr. Helmut Dannerbauer (Director); Dr. Jose Manuel Pérez-Martínez (Co-Director) y	"Shedding light on the environmental evolution of galaxies in the early universe with JWST, ALMA, Euclid and SHARKS"
53	Dr. Alexandre Vazdekis (Director) y Dr. Rogérico Riffel (Co-Director)	"Shaping galaxies in the era of JWST: Near-Infrared stellar populations constraints to galaxy evolution models"

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49	Dr. Jairo Méndez-Abreu (Director) y Dra. Adriana de Lorenzo-Cáceres (Co-Directora)	"Deconstructing Galaxies in Space and Time"
48	Dra. Anelise Audibert (Directora) y Dra. Cristina Ramos Almeida (Co-Directora)	"ALMA+JWST multiphase view of AGN feeding and feedback in GATOS galaxies"
46	Dra. Cristina Ramos Almeida (Directora) y Dr. José Antonio Acosta Pulido (Co-Director)	"Searching for direct evidence of positive and negative quasar feedback using Keck and JWST observations"
45	Dr. Marc Huertas-Company (Director)	"The connection between star formation and morphology with Foundational Artificial Intelligence"
41	Dr. Ignacio Martín Navarro (Director)	"Variations in the initial mass function of young stellar populations"
37	Dra. Casiana Muñoz-Tuñón (Directora) y Dr. J. Alfonso López Aguerri (Co-Director)	"Star Formation Near and Far: A case for high-spectral resolution spectroscopy"
32	Dra. Adriana de Lorenzo-Cáceres Rodríguez (Directora) y Dra. Begoña García Lorenzo (Co-Directora)	"The elusive art of feeding discrete supermassive black holes"
26	Dr. Jesús Falcón Barroso (Director); Dr. Alexandre Vazdekis (Co-Director) y Dr. Javier Cenarro Lagunas (CEFCA) (Co-Director)	"Stellar Populations of Galaxies in 3D"
14	Dra. Anna Ferré Mateu (Directora) y Dra. Chiara Spiniello (Co-Director)	"Relics, young nuggets and late bloomers. How and why do ultra-compact galaxies exist?"
13	Dr. Ignacio Trujillo Cabrera (Director)	"Understanding how the edge of galaxies moves over time"
9	Prof. Johan H. Knapen (Director) y Dr. Sébastien Comerón (Co-Director)	"Probing the circumnuclear medium in AGN and starbursts at scales smaller than 100 pc with MUSE AO-assisted integral field spectroscopy"
8	Dr. Sébastien Comerón (Director) y Prof. Joahn H. Knapen (Co-Director)	"The evolution of thick discs seen in deep HST and JWST imaging"
<p><b>STELLAR AND INTERSTELAR PHYSICS – FÍSICA ESTELAR E INTERESTELAR</b>  <b>(DIRECTORES: DR. SERGIO SIMON DÍAS Y DRA. SAVITA MATHUR)</b></p>		
90	Dr. David Aguado (Director) y Dr. Jonay I. González Hernández (Co-Director)	"Revealing the Early Galaxy: search and characterization of the most primitive stars"
89	Dr. Carlos Allende Prieto (Director) y Dr. David Aguado	"Uncovering the relics of the Milky Way formation with the Dark Energy Spectroscopic Instrument"
62	Dr. Paul Beck (Director) y Dra. Ana Escorza Santos (Co-Directora)	"Oscillating Red Giants in binary systems: testing benchmark objects for stellar-evolutionary and mass-transfer models"
39	Dr. Sergio Simón Díaz (Director) y Dr. Yeisson Osorio (Co-Director)	"Improving the reliability of surface abundance determinations in OB stars"
36	Dr. Domingo Anibal García Hernández (Director) y Dr. Ransel Barzaga Guzmán (Co-Director)	"Quantum-chemistry simulations of fullerene- and graphene-based nanostructures of astrophysical interest"
23	Dr. David Jones (Director)	"Using planetary nebulae to understand the common-envelope phase of binary evolution"
19	Dr. César Esteban López (Director) y Dr. Jorge García Rojas (Co-Director)	"Unveiling the chemical properties of planetary nebulae through deep optical spectrophotometry"

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16	Dr. Nicolas Lodieu (Director); Dr. Richard Smart (Torino, IT) (Co-Director) y Dr. Bartosz Gauza (University of Zielona Gora, POL) (Co-Director)	"Origins of ultracool low mass objects and brown dwarfs from rotation rates"
12	Dr. Arturo Manchado (Director) y Dra. Eva Villaver (Co-Directora)	"The contribution of molecular hydrogen to the baryonic matter of the universe"
226	Dr. Michael Abdul-Masih (Director) y Dr. Sergio Simón Díaz (Co-Director)	"The impact of rapid rotation the spectroscopic modelling of massive stars"
<b>EXOPLANETARY SYSTEMS AND SOLAR SYSTEM – SISTEMAS EXOPLANETARIOS Y SISTEMA SOLAR (DIRECTORES: DR. JUAN A. BELMONTE AVILÉS Y DR. JONAY I. GONZÁLEZ HERNÁNDEZ)</b>		
66	Dr. Hannu Parviainen (Director) y Dr. Hans Deeg (Co-Director)	"Exoplanet candidate vetting using modern machine learning methods"
44	Dr. Hans Deeg (Director) y Dr. Hannu Parviainen (Co-Director)	"Populations of Extrasolar Planet Systems"
55	Dr. Felipe Murgas (Director) y Dr. Enric Pallé (Co-Director)	"Searching and characterizing earth-like planets with TESS+MuSCAT2 and CARMENES+ESPRESSO"
51	Dr. Víctor Sánchez Bejar (Director) y Dr. Nícolas Lodieu (Co-Director)	"Validation and mass determination of young transiting planets"
38	Dr. Enric Pallé (Director)	"High-resolution spectroscopy of exoplanet atmospheres in the era of JWST"
34	Dra. Julia de Leon (Directora) y Dr. Marcel Popescu (Astronomical Institute of the Romanian Academy, Romania) (Co-Director)	"Characterization of asteroid Didymos with data from the ESA Hera spacecraft"
27	Dr. Javier Licandro (Director)	"Small Near-Earth Asteroids: Discovery and physical characterization using ATLAS-Teide and Canary Islands Observatories"
<b>SOLAR PHYSICS – FÍSICA SOLAR (DIRECTORAS: DRA. ELENA KHOMENKO Y DRA. M<sup>a</sup> JESÚS MARTÍNEZ GONZÁLEZ)</b>		
40	Dr. Manuel Collados Vera (Director) y Dra. Elena Khomenko (Co-Directora)	"A systematic search for observational confirmation of partial ionization effects in the Sun"
11	Dr. Tobias Felipe (Director) y Dr. Christoph Kuckein (Co-Director)	"On the nature of solar magnetic bright points"
<b>MILKY WAY AND LOCAL GROUP – VÍA LÁCTEA Y EL GRUPO LOCAL (DIRECTORES: DR. CÉSAR ESTEBAN LÓPEZ Y DRA. CARME GALLART GALLART)</b>		
73	Dr. Guillaume Thomas (Director) y Dra. Giuseppina Battaglia (Co-Directora)	"Exploring the structure of the Milky Way stellar halo with state-of-the-art large scale surveys"
64	Dra. Giuseppina Battaglia (Directora) y Dr. Guillaume Thomas (Co-Director)	"Investigations of dark matter halo properties of Local Group dwarf galaxies in the Gaia and WEAVE era"
52	Dra. Carme Gallart (Directora); Dra. Emma Fernández-Alvar (Co-Directora) y Dr. Tomas Ruiz-Lara (Co-Director)	"Unraveling the formation and evolution of the Milky Way disk with Gaia"

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ESPECIALIDAD DE INSTRUMENTACIÓN ASTROFÍSICA

Nº	DIRECTOR/CO-DIRECTOR/TUTOR	TITULO PROYECTO
61	Dr. Roberto López López	"Development of a coronagraph to study the use of active digital masks"
24	Prof. Francisco Sánchez Martínez (Director) y Co-Directores todos los Coordinadores de Instrumentación	"Del Puente de Winston al GTC y Más Allá"
22	Dr. Patricia Fernández (Director); Dr. Jeffrey Kuhn (Co-Director) y Dr. Jannick Rolland (Co-Director)	"Developing optical Innovation for future large telescope and space systems"
21	Dr. Nicolas Lodieu (Director); Dr. Jeffrey Kuhn (Co-Director) y Dr. Mauricio de Oliveira (Co-Director)	"Developing low-mass, stiff, precise opto-mechanical innovations for future large telescope and space systems"
17	Dr. Jeff Kuhn (Director); Dr. Nicolas Lodieu (Co-Director) y Dr. Pradip Gatkine (Co-Director)	"Exoplanet imaging using photonic lanterns as wavefront sensors"