



PREDOCTORAL CONTRACTS 2022 SEVERO OCHOA

RL1.- SUSTAINABLE ENERGY CONVERSION AND STORAGE SYSTEMS

(Coordinator: Alejandro Goñi)

Enhancing charge transport using enantiomerically pure materials

PI: David B. Amabilino (amabilino@icmab.es)

Chiral plasmonic metasurfaces to control light emission

PI: Agustín Mihi (amihi@icmab.es)

Laser wet synthesis of multicomponent hybrid electrodes for asymmetric supercapacitors

PI: Ángel Pérez del Pino (aperez@icmab.es)

New Surfaces for Ice Making Future Sustainability (SurfICE)

PI: Albert Verdaguer (averdaguer@icmab.es)

Bending Heat Through Molecular Orientation

PI: Mariano Campoy (mcampoy@icmab.es)

Imperfectly perfect complex oxides for energy harvesting

PI: Mariona Coll (mcoll@icmab.es)

Design of nanoscale phononic logic devices

PI: Riccardo Rurali (rrurali@icmab.es)

Controlling the chemistry in aqueous zinc batteries

PI: Dino Tonti (dino@icmab.es)

Wireless Bipolar Electrochemistry effects in Bioelectrodes, Electrochemical Energy Storage and Electrocatalysis

PI: Nieves Casañ (nieves@icmab.es)

Polyoxometalate-Enabled Zinc-Air Battery at Near-Neutral pH

PI: Nieves Casañ (nieves@icmab.es)

RL4.- TUNEABLE AND LOW COST MOLECULAR ELECTRONICS

(Coordinator: Marta Mas)

From the design of tetrathiafulvalene-curcuminoid (TTF-CCMoid) systems and the study of their structural-electronic correlation to their testing in devices

PI: Núria Aliaga / Aránzazu González (naliaga@icmab.es / agonzalez@icmab.es)

Hybrid Molecular Graphene Devices

PI: Nuria Aliaga / Kasper Moth-Poulsen (naliaga@icmab.es / kmothpoulsen@icmab.es)



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In-situ correlation of microstructure and electrical properties in organic semiconductor films under operando conditions

PI: Esther Barrena (e.barrena@csic.es)

Flexible organic electronics for sensing applications

PI: Marta Mas / Núria Crivillés (mmas@icmab.es)

RL5.- BIOACTIVE MATERIALS FOR THERAPY AND DIAGNOSIS (Coordinator: Imma Ratera)

Bioactive breast patch to treat intensive radiation therapy related injuries

PI: Anna Roig (roig@icmab.cat)

Organic radical nanostructures for magnetic resonance imaging and diagnosis

PI: José Vidal (j.vidal@icmab.es)

Development of immobilized metal-organic assemblies for therapy and imaging

PI: Arántzazu González-Campo / Núria Aliaga-Alcalde (agonzalez@icmab.es)

Nanoparticles for radiation therapy enhancement

PI: Gerard Tobias (gerard.tobias@icmab.es)

Understanding Electromagnetic fields on our health using C. elegans

PI: Anna Laromaine (alaromaine@icmab.es)

Novel multifunctional natural-polymer and nanoparticles hybrids for tissue regeneration

PI: Anna Roig (roig@icmab.es)

Novel fluorescent nanoparticle formulations for image guided surgery of ovarian cancer

PI: Nora Ventosa (ventosa@icmab.es)

Development of boron rich photosensitizers as antimicrobial and anticancer agents by combining PDT and BNCT

PI: Rosario Núñez (rosario@icmab.es)

RL, General.- FUNCTIONAL OR MULTIFUNCTIONAL NANOSTRUCTURED MATERIALS (Coordinator: M. Rosa Palacín)

Light responsive soft materials for molecular transport

PI: David B. Amabilino (amabilino@icmab.es)

Light-matter interactions in quantum solid-state nanodevices

PI: Gervasi Herranz (gherranz@icmab.es)

Functional Oxide Nanostructures for Spin-Charge interconversion

PI: Benjamín Martínez (ben.martinez@icmab.es)



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Ultrafast growth of ultrahigh performance superconducting tapes:

Correlation between microstructure and properties

PI: Teresa Puig (teresa.puig@icmab.es)

Development of new polar oxynitrides

PI: Amparo Fuertes (amparo.fuertes@icmab.es)

Wrinkling and strain patterning in free-standing ferroelectric membranes

PI: Felip Sandiumenge (felip@icmab.es)

Miniaturized sub-THz non-reciprocal passive devices for the 6G transition

PI: Martí Gich (mgich@icmab.es)

Nano-Engineered High-Temperature Superconductors for functional quantum devices

PI: Anna Palau / Narcís Mestres (palau@icmab.es / narcis@icmab.es)

Development of an electronic-skin (eSkin) for sensing

PI: Raphael Pfattner (rpfattner@icmab.es)

Reconfigurable Spintronic Memory Elements Enabled by Solid-State Gating

PI: Can Onur Avci (cavci@icmab.es)