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UAB Research Park

R&D Capabilities

Departments, centres and research institutes of the UAB[CIE] Sphere have demonstrated excellence in their field of R&D, promoting multi-disciplinary research and knowledge transfer.

Therefore, we promote collaboration, information sharing and the creation of agreements between research centres and companies with the aim of increasing innovation and business competitiveness.

In this section we present the scientific and technological capacities of the research groups of the Esfera (Sphere) UAB[CIE] organized by subject.

Materials & energy

APLICATIONS	SOLUTIONS
Management of primary sources	Biological processes for the removal of H2S gas content as biogas or natural gas
	Bioelectrochemical hydrogen production
	Reducing net CO_2 emissions
	Bioreactors for biological collection of CO_2
	Biological collection of CO_2
Power generation	Water and waste gas treatment technologies
	Manufacture of power devices
	Systems to improve efficiency and reduce energy consumption, with particular emphasis on applications, transportation, aerospace, renewable energy and automotive power distribution
	Radiation detection in high-energy physics and medical imaging
	Gas detection
	Materials to generate photovoltaic energy
	Materials for storing and converting energy
	Materials for the generation, storage and use of energy
	Plastic-based materials for flexible solar panels
	New sustainable methods for obtaining and storing energy
	Biological transformation of natural products into energy products (Energy recovery from different waste substances created in industrial processes to generate value-added products such as biofuels)
The energy at the point of consumption	Improve the wireless transmission of electrical energy
	Superconductors for application to levitating trains
	Development and construction of superconducting wires
	Microelectronic systems for remote site water / gas / electricity
	Advanced systems for diagnosis of the state of the current electricity and gas infrastructure
	Algorithms for optimal management of electric vehicle top-up
	Advanced systems for diagnosis of the state of existing infrastructures
	Output devices
	Control systems environments and people

Materials & devices	Biomaterials and materials for drug delivery and diagnostics
	Materials for energy and the environment
	Design of materials for communication sciences and electronics
	Optical materials
	High-performance micro and nano devices for biological and biomedical applications.
	BioInterfaces and application of nanomaterials to public health and environmental health
	Portable multiparameter optical system for counting and / or analysis of organic (microorganisms) and inorganic suprananometric particles.
	Material for manufacturing heavy metal sensors that are small, low cost, high sensitivity, and respect the environment.
Nanofabrication	Technology for the fabrication of functional AFM probes
	Methods based on emerging nanolithographies to manufacture nanometre scale structures and devices of interest for integrated micro/nano systems.

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