



This project is co-financed by the  
European Union and the Republic of Turkey  
Bu proje Avrupa Birliđi ve Türkiye Cumhuriyeti tarafından  
finansé edilmektedir

***Ana Palanca***  
***AIMPLAS, Spain***  
***apalanca@aimplas.es***



# Description of the Organization



- AIMPLAS is a non-profit Research Centre. Technological Institute of Plastics (Spain).
- + 700 associated companies. +200 highly skilled professionals and 30 years expertise
- Technological research and development on thermoplastic and thermosetting materials from TLR3 to TRL8. Synthesis of breakthrough materials from TRL1 to TRL3.
- Since year 2000, AIMPLAS has participated in more than 100 EC funded projects (FP5, FP6, FP7, LIFE+, EcoInnov, EUREKA & H2020), among others, coordinating several of them (~40%).
- AIMPLAS has state-of-the-art 10,000 m<sup>2</sup> facilities, including thermoplastics & thermoset pilot plants, coatings, synthesis, clean rooms and testing laboratories and training areas.

# Description of your research interest



AIMPLAS has a broad expertise in the fields of:

- Recycling
- Plastic blends, new compounds formulations
- Reactive extrusion, synthesis and processing of biopolymers and renewable source materials
- Special assisted processing technologies (microwaves, supercritical CO<sub>2</sub>)
- CO<sub>2</sub> capture and conversion systems
- Catalyst development
- Plastronics
- Materials & technologies for additive Manufacturing
- High performance coatings
- Polymer nanocomposites, functionalization of nanoparticles,
- Multilayer structures
- Development of plastic products



# Description of your research interest



## Advanced Materials

- Thermoplastic Composites
- Heater / anti-icing
- Flame Retardant
- Antimicrobial
- Antifouling

## Smart Composites

- Sensors Integration
- Curing Monitoring (DEA)
- In-Mould Electronics

## Valorization Ecodesign

- Recycling
- Recycling ancillary materials
- Circular economy - valorization

## Electrification

- Batteries
- Autonomous driving
- Car shearing

## Advanced Production

- In-situ consolidation (ATL, ATP)
- Thermoplastic pultrusion
- Process simulation
- Alternatives to autoclave

## Energy-efficient buildings

- Smart materials
- Intrinsically active polymers: antimicrobial and flame retardant.
- Materials of high specific surface area: aerogels, nanofoams, nanofibers

## Renewable energies

- Biodegradable foams.
- Functional coatings
- Printed electronics.
- Thermal and electric conductivity.

## CO2 Capture and Separation Technologies

- Functionalized nanoparticles and polymers for carbon capture and storage (CCS).
- CO2 capture: Metal Organic Frameworks (MOFs), carbonous materials, zeolites, dendrimers, hydrotalcites (LDHs)
- Catalyst's design for CO2 conversion, hydrogenation and oxidation processes, water treatment and polymer recycling
- Membranes' synthesis and commercial membrane modification

# Project Topics interests

---

## RESEARCH AND INNOVATION ACTIONS TO SUPPORT THE IMPLEMENTATION OF THE CLIMATE-NEUTRAL AND SMART CITIES MISSION

**HORIZON-MISS-2021-CIT-02-01: Urban planning and design for just, sustainable, resilient and climate-neutral cities by 2030**

**HORIZON-MISS-2021-CIT-02-02: Unleashing the innovation potential of public transport as backbone of urban mobility**

**HORIZON-MISS-2022-CIT-01-01: Designing inclusive, safe, affordable and sustainable urban mobility**

## HIGHLY ENERGY-EFFICIENT AND CLIMATE NEUTRAL EU BUILDING STOCK (CLUSTER 5)

**HORIZON-CL5-2022-D4-01-01: Demand response in energy-efficient residential buildings**

**HORIZON-CL5-2022-D4-01-03: Smarter buildings for better energy performance**

**HORIZON-CL5-2022-D4-02-01: Designs, materials and solutions to improve resilience, preparedness & responsiveness of the built environment for climate adaptation (Built4People)**



This project is co-financed by the  
European Union and the Republic of Turkey

Bu proje Avrupa Birliđi ve Trkiye Cumhuriyeti tarafından  
finanse edilmektedir

# Ana Palanca

## AIMPLAS R&D Area

*apalanca@aimplas.es*  
*www.aimplas.net*