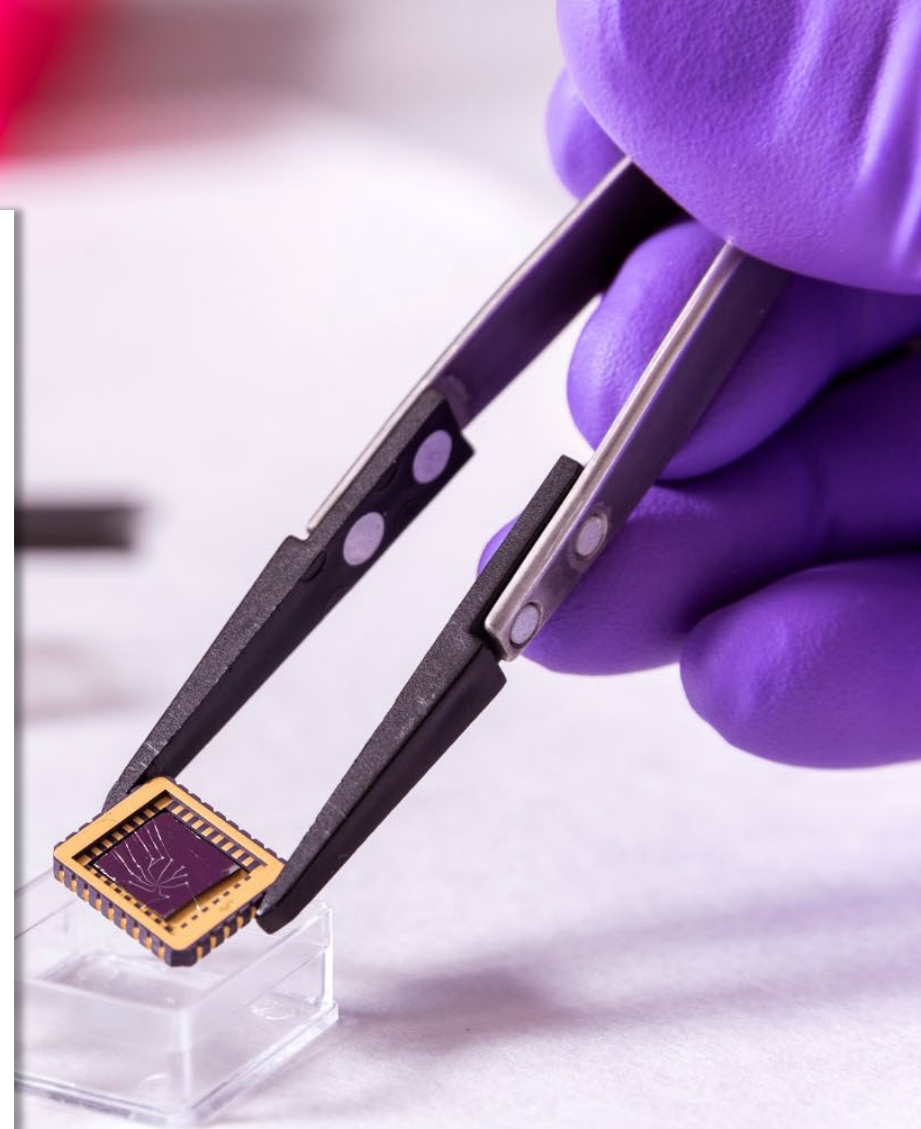


# Master interuniversitario en **Materiales Avanzados**

Coordinado por el  
*Instituto de Ciencia Molecular (ICMol)*  
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# Máster en Materiales Avanzados

Coordinado por el **Instituto de Ciencia Molecular** de la **Universitat de València**

Universidades participantes:



UNIVERSITAT  
DE VALÈNCIA



Universitat d'Alacant  
Universidad de Alicante



Universidad Autónoma  
de Madrid



UNIVERSITAT DE  
BARCELONA



UNIVERSIDAD DE MÁLAGA



UNIVERSIDADE  
DE SANTIAGO  
DE COMPOSTELA



UNIVERSITAT  
POLITÀCNICA  
DE VALÈNCIA



Universidad  
Zaragoza



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Universidad  
Zaragoza

# Máster en Materiales Avanzados

Multidisciplinary training in fundamental and applied aspects of **advanced materials** such as **2D materials** and those used in **energy, environment, ICTs, advanced electronics and healthcare**.

**Mobility and interaction** between master's students and contact with other universities, research centers and companies active in the area.

Addressed to Graduates in Chemistry, Physics, Biology, Medicine, Engineering and related degrees.



**60 credits (1 year)**



**Intensive Course:**  
**3 weeks in January**  
**3 weeks in May**

**+ Initial Basic Course in  
each university**



**Classes in English**  
**Possibility of access to PhD programs**

# Máster en Materiales Avanzados

**2D materials:** Emergent physical properties at the 2D boundary, development of 2D materials, applications

**Energy:** energy storage, green hydrogen generation, photovoltaics, electrocatalysis, photocatalysis

**Environment:** membranes for separation/removal of toxins, CO<sub>2</sub> capture and valorization

**Information technologies:** including quantum technologies

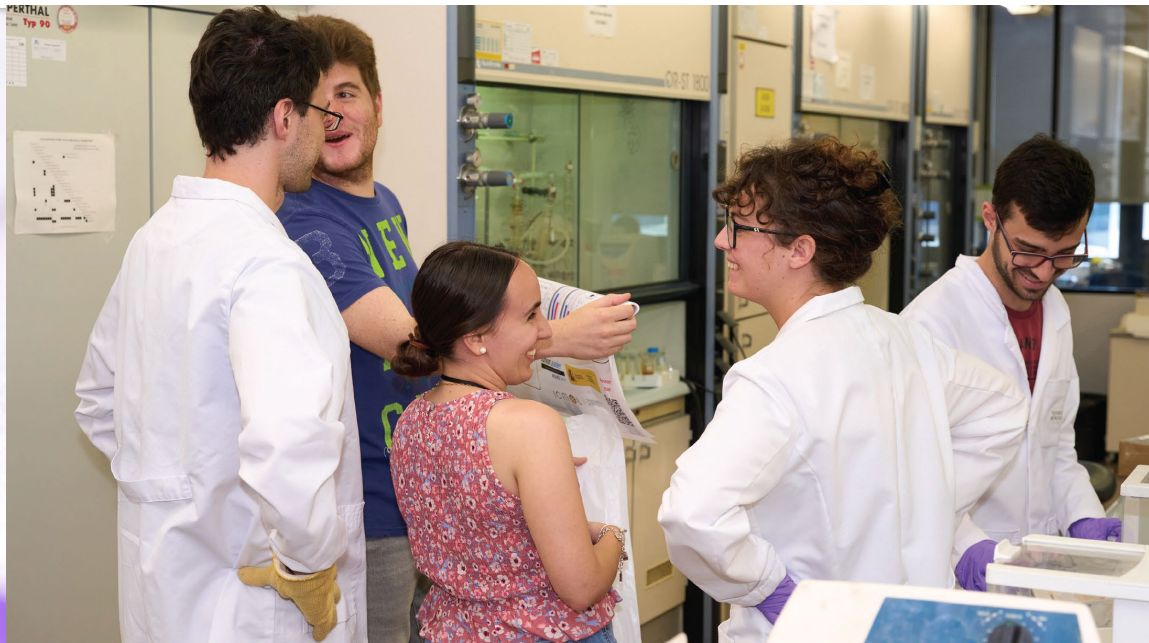
**Advanced electronics:** advanced materials for microelectronics, photonics, optoelectronics, spintronics

**Health:** smart materials for drug delivery, contrast agents, theragnostic agents among others

# Máster en Materiales Avanzados

This knowledge covers the following aspects:

- design, preparation and processing of materials and devices.
- study of their physical and/or chemical properties by means of experimental techniques and theoretical modelling.
- development of applications.



# Máster en Materiales Avanzados

## Career Opportunities

Graduates will be highly qualified to work in various fields, both carrying out a doctoral thesis and applied research in R&D companies, contributing to the development and application of new functional materials in key sectors..

### 1. PhD Student in Materials Science

Able to carry out fundamental and applied research on materials, collaborating interdisciplinarily with experts from other areas

### 2. R&D Project Researcher

Specialist in R&D projects on new materials, both in academia and industry, in sectors such as ICT, energy, biotechnology and health.

### 3. Materials Manufacturing and Characterisation Specialist

Experienced in advanced synthesis and characterisation techniques, applied to the creation of devices and technological solutions.

### 4. Technical Consultant in Advanced Materials

Professional capable of advising on the development and application of innovative materials, helping companies to implement new technologies.

### 5. Entrepreneur in Advanced Technologies

Trained to create technological start-ups based on new materials, with applications in nanotechnology, flexible electronics and renewable energies.

### 6. Lecturer

In research and training centres in disciplines related to materials science and technology.

# Máster en Materiales Avanzados

## INTRODUCTION MODULE

6 hours per week from October to December

MA1 Introduction to the Master's in Advanced Materials (8 ECTS)



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## BASIC MODULE

3 weeks in January

MA2 Graphene and other two-dimensional materials (6 ECTS)

Introduction to 2D Materials

MA3 Materials for energy (6 ECTS)

## ADVANCED MODULE

3 weeks in May

MA4 Smart materials with advanced functionalities (8 ECTS)

MA5 Current topics in advanced materials (2 ECTS)

European School in Advances Materials (ESAM)



**ESAM**  
*European School on  
Advanced Materials*

## FINAL MASTER'S THESIS MODULE

MA6 Final Master's Thesis (30 ECTS)

# Máster en Materiales Avanzados

## Curso 2026-2027



Universidad Autónoma  
de Madrid

	Dates	Hours	Location
<b>Introduction module: MA1</b>			
Lessons	28/9/2026 to 18/12/2026	To be defined	Students will attend the courses at their enrolment university
Exam 1 <sup>st</sup> call	8/1/2027	To be defined	
Resit exam	15/4/2027	To be defined	
<b>Basic module: MA2-MA3</b>			
Lessons	11 to 29/1/2027	Mon-Fri: 9:00-13:30 & 15:00-19:30	U. Autónoma de Madrid
Exam 1 <sup>st</sup> call	11/3/2027	10:00	Enrolment university
Resit exam	29/4/2027	10:00	
<b>Advanced module: MA4</b>			
Lessons	3 to 14/5/2027	Mon-Fri: 9:00-13:30 & 15:00-19:30	U. Autónoma de Madrid
Exam 1 <sup>st</sup> call	17/6/2027	10:00	Enrolment university
Resit exam	9/7/2027	10:00	
<b>MA5-ESAM</b>			
ESAM European School (+ <a href="#">info</a> )	16 to 22/5/2027	Sun: 16:00-20:00 Mon-Thu: 9:00-20:30	Near Madrid
<b>Master Thesis (TFM): MA6</b>			
Research: Lab work	Whole academic year	-	Enrolment university or external institution
Public defence	To be defined: from late July to mid-September	To be defined	Enrolment university

# Máster en Materiales Avanzados

## HISTÓRICO

**Curso 2025-2026** (No ofertado todavía en la Universidad de Zaragoza)

Módulos en común:



Alumnos procedentes de:



Titulaciones de entrada:

- Química
- Física
- Nanociencia y Nanotecnología
- Biotecnología
- Ingeniería de procesos
- Bioquímica

# Máster en Materiales Avanzados

**“Study in a center of excellence with internationally recognized researchers”**

**[www.icmol.es/master/materials](http://www.icmol.es/master/materials)**

Master's Program Coordinator Unizar:  
Alodia Orera [aorera@unizar.es](mailto:aorera@unizar.es)