

# UNIVERSIDAD POLITÉCNICA DE MADRID

## OFERTA DE TRABAJO/JOB OFFER

### INFORMACION BÁSICA/BASIC INFO

\***PROYECTO/ PROJECT:** RP2514100110- RESEARCH METAMATERIAL- REMETA

\***100% FINANCIACION UE/PLAN DE TRANSFORMACIÓN, RECUPERACION Y RESILIENCIA/10 0%EU FINANCING/TRANSFORMATION PLAN, RECOVERY AND RESILIENCE:** NO

\***PUESTO OFERTADO/TITLE OF THE POSITION:** Young researcher

\***Nº VACANTES/NUMBER OF POSITIONS AVAILABLE:** 1

\***CATEGORÍA/RESEARCHER PROFILES:** Técnico/Gestor I+D categoría B

\***DEPARTAMENTO/DEPARTMENT:** Aeronaves y Vehículos Espaciales

\***DIRECCIÓN/WORK LOCATIONS:**

E.T.S. de Ingeniería Aeronáutica y del Espacio. Plaza del Cardenal Cisneros, 3. 28040. Madrid.

### INFORMACION DE CONTRATACIÓN/HIRING INFO

\***ÁREA TECNOLÓGICA/WORK TECHNOLOGY AREA:** P- Arquitectura, Ingeniería V Producción

\***CAMPO DE INVESTIGACIÓN/RESEARCH FIELD:** Engineering - Mechanical engineering

\***TAREAS/TASKS:**

Computational Mechanics & Modeling: Develop and simulate numerical models of damage and failure in aerospace structures, including FEA for metamaterials.

Materials Design & Characterization: Study and optimize metamaterials and composites for enhanced durability, performing microstructural analysis and mechanical testing

Topology Optimization & AI Integration: Use AI and machine learning to guide structural and topology optimization, creating predictive models for failure control

Validation & Experimental Collaboration: Compare simulations with experiments, collaborate on proof-of-concept testing, and refine models based on results

\***CONTRATO/TYPE OF CONTRACT:** Indefinido de Actividades Científico-Técnicas Art. 23.bis Ley de la Ciencia

\***JORNADA/JOB STATUS:** Full-time

\***HORAS SEMANA/HOURS PER WEEK:** 37,5

\***DISPONIBILIDAD PARA VIAJAR/AVAILABILITY TO TRAVEL:** Sin especificar

\***SALARIO BRUTO AÑO/SALARY OFFERED:** 22.000-25.000€

\***FECHA LÍMITE INSCRIPCIÓN/APPLICATION DEADLINE:** 20/03/2026

\***FECHA ESTIMADA DE CONTRATACIÓN/ESTIMATED DATE OF JOB CONTRACT:** 06/04/2026

\***DURACIÓN DE TAREAS DEL CONTRATO/TERM OF CONTRACT:** 3-6 months

\***FINANCIACIÓN PROGRAMA MARCO UE/IS THE JOB FUNDED THROUGH A EU RESEARCH FRAMEWORK PROGRAMME?:**

**PROGRAMA REFUGIADOS UE/Science4Refugees:** No

### INSCRIPCIÓN/ APPLICATION

\***EMAIL DE INSCRIPCIÓN/APPLICATION EMAIL:** josemaria.benitez@upm.es

\***PERSONA DE CONTACTO/CONTACT PERSON:** JoséMaríaBenitezBaena

**WEBSITE:**

## REQUISITOS/REQUIREMENTS

### \*NIVEL EDUCATIVO REQUERIDO/REQUIRED EDUCATION LEVEL

PRINCIPAL CAMPO DE INVESTIGACIÓN 1/MAIN RESEARCH FIELD 1:

NIVEL/LEVEL: Grado



PRINCIPAL CAMPO DE INVESTIGACIÓN 2/MAIN RESEARCH FIELD 2:

NIVEL/LEVEL:



### HABILIDADES-CUALIFICACIONES-INFORMÁTICA/SKILLS/QUALIFICATION S:

Strong background in solid/computational mechanics, including FEM and structural analysis.

Experience or interest in metamaterials, fracture mechanics, or advanced material behavior.

Programming skills (e.g., Python, MATLAB, Julia,...), ideally with experience in numerical methods or scientific computing.

Familiarity with machine learning techniques applied to engineering problems is a plus.

Good communication skills and ability to work independently and collaboratively in a multidisciplinary research environment.

### REQUERIMIENTOS ESPECÍFICOS/SPECIFIC REQUIREMENTS:

Bachelor degree in Aerospace Engineering, Mechanical and/or Structural Engineering, or a closely related field.

Solid knowledge of solid mechanics, computational mechanics, or structural analysis.

Demonstrated programming ability (Python, MATLAB, or C++).

Good command of English (written and spoken) for research and publication activities.

Motivation for research in metamaterials, fracture mechanics, and AI-driven structural design.

### IDIOMAS REQUERIDOS/REQUIRED LANGUAGES:

IDIOMA 1/LANGUAGE 1: English

NIVEL LECTURA/READING LEVEL: Alto

NIVEL ESCRITO/WRITING LEVEL: Alto

NIVEL CONVERSACIÓN/CONVERSATION LEVEL: Alto

IDIOMA 2/LANGUAGE 2: Spanish

NIVEL LECTURA/READING LEVEL: Medio

NIVEL ESCRITO/WRITING LEVEL: Medio

NIVEL CONVERSACIÓN/CONVERSATION LEVEL: Medio

IDIOMA 3/LANGUAGE 3:

NIVEL LECTURA/READING LEVEL:

NIVEL ESCRITO/WRITING LEVEL:

NIVEL CONVERSACIÓN/CONVERSATION LEVEL:



### EXPERIENCIA EN INVESTIGACION REQUERIDA/REQUIRED RESEARCH EXPERIENCE:

CAMPO INVESTIGACIÓN 1/RESEARCH FIELD 1: Engineering -Aerospace engineering

AÑOS MÍNIMOS DE EXPERIENCIA REQUERIDOS/MINIMUM YEARS OF EXPERIENCE REQUIRED:



CAMPO INVESTIGACIÓN 2/RESEARCH FIELD 2: Engineering - Mechanical engineering

AÑOS MÍNIMOS DE EXPERIENCIA REQUERIDOS/MINIMUM YEARS OF EXPERIENCE REQUIRED:



CAMPO INVESTIGACIÓN 3/RESEARCH FIELD 3:

AÑOS MÍNIMOS DE EXPERIENCIA REQUERIDOS/MINIMUM YEARS OF EXPERIENCE REQUIRED:



\*Campos obligatorios/Required fields

## INFORMACIÓN ADICIONAL/ADDITIONAL INFO

### BENEFICIOS/B ENEFITS:

Gain hands-on experience with cutting-edge computational mechanics, AI-driven design, and fracture mechanics.

Work on high-impact aerospace and space applications with mentorship from leading researchers.

Access to state-of-the-art labs, software, and experimental facilities.

Build a strong foundation for careers in academia, aerospace industry, and research institutions.

Opportunities to publish in top journals, attend international conferences, and collaborate globally.

Competitive funding and scholarships, plus a flexible, innovation-friendly environment.

### CRITERIOS Y PROCESO DE SELECCIÓN/ELIGIBILITY CRITERIA AND SELECTION PROCESS

<https://www.upm.es/1nvestigacion/HRS4R/HRS4R/Seleccion>:

Se aplican las pautas establecidas en el proceso de selección del nuevo *Reglamento para el proceso de selección y contratación del personal investigador, personal técnico y personal gestor relacionado con la investigación de la Universidad Politécnica de Madrid*, aprobado en la UPM.

### COMENTARIOS ADICIONALES/ADDITIONAL COMMENTS: