CIMNE
International Centre for Numerical Methods in Engineering
HR EXCELLENCE IN RESEARCH
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JOB VACANCY ANNOUNCEMENT

VAC-2025-43 – PhD Call

Number of positions available: 10

Category: PhD Student

Workplace: Barcelona, Madrid, Lleida (depending on the position)

Salary (gross): 1st year: €19,479

2nd and 3rd year: €23,871.33€

Weekly working hours: 40h/week

Contract type: Predoctoral

Duration: 3 years

CIMNE is a globally recognized research centre based in Barcelona, dedicated to the development and application of numerical methods in engineering and applied sciences. Since its foundation in 1987, CIMNE has been a hub for scientific excellence, technology transfer, and the training of highly qualified researchers.

As part of the new Funding Agreement with the Government of Catalonia, CIMNE is launching **a competitive call to hire 10 highly motivated PhD students**. This initiative is part of an institutional strategy to strengthen frontier research, foster innovation, and promote the development of scientific talent in strategic technological areas.

By joining CIMNE, selected PhD candidates will become part of a vibrant international research community, with access to cutting-edge computational tools and collaboration opportunities with leading academic and industrial partners. Through this call, CIMNE reaffirms its long-standing commitment to building a new generation of researchers capable of addressing complex societal and technological challenges through advanced numerical modelling, artificial intelligence, and interdisciplinary research.

General requirements:

- Candidates must be eligible for admission to a PhD program in Spain.
- Candidates must have an academic background in engineering, applied mathematics, physics or similar cognate discipline.

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Qualification system:

The requisites and merits will be evaluated with a maximum note of 100 points. Such maximal note will be obtained summing up the following points:

- Academic qualifications: 30%
- Training and development: 20%
- Professional experience: 10%
- Knowledge of the English language: 10%
- Selective tests and interview: 30%

PhD Research Opportunities at CIMNE:

Possible topics for research are listed below together with the academic staff that will supervise the project.

Candidates may select up to three topics, in order of preference, in the application form.

PHD#1: Multiscale Fatigue Prediction of Composite Materials Based on Microstructural Modelling

Supervisor(s): Fermín Otero, Lucia Barbu.

Description: This PhD project focuses on the development of advanced multiscale modelling strategies for the prediction of fatigue behaviour in composite materials, explicitly linking macroscopic fatigue performance with the underlying microstructure.

Fatigue is one of the most critical failure mechanisms in structural components, especially in long-life applications across aerospace, automotive, naval, and renewable energy sectors, where cyclic loading is a dominant operational condition. Traditional fatigue models are typically empirical and insufficiently capture the complex failure mechanisms in fiber-reinforced polymers (FRPs), particularly when influenced by microstructural heterogeneities, such as fiber distribution, orientation, interphase properties, and matrix-fiber interface degradation.

The objective of this research is to establish a robust multiscale framework that connects fatigue life predictions to the actual architecture of the composite, from fiber/matrix level up to the structural scale. This will involve:

• Developing and validating micromechanical models capable of capturing fatigue damage initiation and evolution at the fiber/matrix scale;

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• Coupling these models with homogenization techniques and macroscale simulations to predict global structural response;

• Incorporating stochastic microstructural variability to assess fatigue reliability and scatter;

• Integrating data-driven approaches and machine learning tools for accelerated fatigue assessment and model calibration.

The project will also explore the influence of sustainable composite architectures, such as thermoplastic-based systems, whose recyclability and evolving microstructure under fatigue loads pose new modelling challenges and opportunities.

By combining mechanistic insight with computational efficiency, the developed methodologies aim to enable the design of fatigue-resistant composite structures, aligned with durability, performance, and sustainability criteria. The outcomes of this research will support the development of lighter, more reliable components and significantly extend the service life of critical structures, while enabling material- and cost-efficient engineering solutions.

Target applications include aeronautical skins and stiffeners, offshore wind blades, electric vehicle structures, and naval lightweight systems. The project will be closely linked to industrial partners and experimental teams for model validation.

Specific requirements:

- Highly motivated and talented postdoctoral researcher
- Strong background in computational mechanics
- Keen interest in the durability and long-term performance of advanced materials.
- Ability to carry out independent research while collaborating effectively in a multidisciplinary environment.

PHD#2: Hybrid Optimization Methods for High-Cycle Fatigue Analysis

Supervisor(s): Sergio Jiménez, Jordi Pons-Prats

Description: High-cycle fatigue (HCF) remains a critical design and safety challenge in structural components subjected to cyclic loading across a wide range of engineering applications. Traditional simulation-based approaches for fatigue life prediction are often computationally intensive, especially when coupled with large-scale parametric optimization processes. With the increasing demand for accurate fatigue modelling in sectors like aerospace, civil, and mechanical engineering, there is a pressing need for optimization methods that are not only computationally efficient but also capable of incorporating physical insight into the fatigue mechanisms.

Specific requirements:

- Good knowledge of numerical methods
- Good knowledge of optimization methods
- Good programming skills; C++, Python

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PHD#3: Machine Learning & Computational Cardiovascular Modelling

Supervisor(s): Miquel Aguirre, Eduardo Soudah

Description: Cardiovascular diseases are one of the top causes of death around the world. One common treatment is stenting, where a small tube initially folded is guided (via catheters) and then released into the disease arteries to restore blood flow. These interventions minimize patient trauma and have gained a lot of attention in the last years. Yet, their planning is highly challenging as the interaction of the devices with the patient's body is highly complex and makes difficult to predict the final positioning of the device. Because of this, the use of physics based computational models (i.e. Finite Element or similar) are becoming important decision-support tools in the preoperative phase. Yet, despite the high predictive power of these tools, they require a lot of computational resources and time, which limits their clinical use. This predoctoral research opportunity focuses on the development of fast computational models able to predict the interaction of devices with the patient body.

We're looking for a motivated student to help develop clinically oriented next-generation simulation for endovascular surgical planning by combining:

- The Development of Computational Biomechanics(CB) tools able to model the physics behind endovascular device deployment.

- The use of Physics-based Machine Learning (ML) techniques, a subclass of AI, in order to accelerate simulations while ensuring the satisfaction of physical laws.

The goal is to create fast, accurate, and efficient tools for predicting how stents behave under different physiological conditions. This will allow faster testing, better planning, and ultimately, improved patient care. The developments will be validated against specific use cases using clinical data, in collaboration with experimental and clinical research groups. If you are interested in biomechanics, numerical methods, and AI in biomedical engineering, this is your chance to contribute to meaningful research with real clinical impact.

We offer:

- Opportunity to join a dynamic, young research group with an interdisciplinary focus and strong track record of the topic of this research line.

- Clinical-oriented research with direct impact on patient care and clinical practice.

- Extensive collaboration opportunities with hospitals, clinical practitioners, and leading international research groups, enhancing the translational potential of research outcomes and promoting international networking.

- Development and dissemination of open-access computational tools and codes, including contributions to in-house platforms, such as, KRATOS Multiphysics, EndoBeams, amongst others.

Specific requirements:

- Master's degree (or equivalent) in Applied Mathematics, Physics, Computational Mechanics, Mechanical Engineering, Biomedical Engineering, Computational or related fields.
- Familiarity (not required) with numerical methods (finite element analysis), programming languages (Python, MATLAB), and machine learning frameworks.

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- Strong analytical and problem-solving skills, with a demonstrated interest in biomedical simulation and computational modelling.

PHD#4: Engineering living matter using control theory and computational modelling

Supervisor(s): Marino Arroyo, José J. Muñoz

Description: In recent years, our understanding of the active mechanics of biological systems at various scales has greatly increased thanks to advances in the measurement and manipulation of forces and molecular processes at the cellular scale, which underlie active force generation, rheological properties, and reshaping of cells and tissues [1,2,3]. These mechanical functions in turn control essential biological functions such as the emergence of tissue/organ architecture (morphogenesis) [4] or the ability to move (locomotion, migration) [5]. These advances have enabled the new field of synthetic biology of multicellular systems [2,3]. For instance, it is now possible to control in space and time tissue fluidity or the patterns of active stresses by modifying molecular processes within cells using light, and thus generate morphing events and cellular flows that mimic those of a developing embryo.

Synthetic biology of multicellular systems helps us understand biological systems by building them, but it also opens a new field in engineering of new biohybrid systems, where the base material is living matter in an engineered environment. However, the field strongly relies on trial-and-error to achieve predetermined outcomes. Therefore, this program necessitates conceptual and computational frameworks to rationally use the experimental tools available towards engineering of living matter.

You will join a group with ample expertise in mathematical and computational modelling of living matter and mechanobiology. Starting from a background of continuum models of active matter and advanced finite element methods to solve these models [6], the goal of the project is to apply ideas of control theory to living systems [7].

The objective is two-fold. First, we will analyse actual morphogenetic or locomotory processes in nature through the lens of optimal control under various objective functions, in order to provide a new level of understanding of how living systems operate. Second, we will aim at devising control-theoretic strategies to purposefully guide synthetic morphogenesis in engineered living systems. In both aims, you will receive support and collaborate with a network of excellent experimental collaborators in nearby and international institutions.

Specific requirements:

- Highly motivated person with curiosity for interdisciplinary research, with an interest in mathematical and computational modelling, and with the drive to make important contributions at the forefront of science and engineering.
- MS or equivalent degree in Applied Mathematics, Physics, Computational Engineering, or a related discipline.
- Previous experience in biomechanics and/or mechanobiology is useful but not required.

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PhD#5: Model-based and data-driven structural health monitoring methods

Supervisor(s): Ivan Markovsky, Alba Muixi, Michel Kinnaert (Université Libre de Bruxelles)

Description: Structural health monitoring in safety-critical applications is currently done by human inspection and human-assisted analysis of data from sensors placed on the structure. This project develops computational methods for fully automatic real-time data processing in order to assist the human decision making by giving an early warning about a fault (fault detection) as well as information about the type of fault (fault isolation). The main idea put forward in the project is to combine the real-time sensors data with a priori available mathematical models of the structure. The models are used for off-line data generation under different scenarios (normal operation as well as operation under various faults), while novel data-driven methods are used for real-time processing of measurements from the structure and the off-line data in order to assess its structural health condition. As a testbed for validation of the approach we will use earth-filled tailings dams, which is a challenging application with a high societal impact. The methodology used is highly novel and unconventional---it is based on the behavioral system theory and newly emerged from it direct data-driven methods. Thus, if successful, the project will be a major step forward in monitoring of complex spatio-temporal systems. The project is multidisciplinary as it involves concepts and methods from systems & control, structural mechanics, and numerical linear algebra.

Specific requirements:

- Undergraduate and MSc degree in Engineering, Mathematics, or Physics
- Good spoken and written English
- Knowledge of finite element analysis and/or signal processing

PhD#6: Large scale 3D modelling technology for solid body interactions with the Particle Finite Element Method

Supervisor(s): Josep Maria Carbonell Puigbó, Marcos Arroyo Álvarez de Toledo

Description: The aim of this research project is to develop an efficient and robust computational tool that integrates mesh-based and mesh-free continuum methods for the simulation of large-scale 3D problems in solid mechanics. The starting point will be the Particle Finite Element Method (PFEM), which is particularly suited for modelling large deformations, evolving domain boundaries, and complex contact interactions in materials exhibiting nonlinear and coupled behaviours.

The proposed approach will address both thermo-mechanical and thermo-hydro-mechanical responses in continuum media, with a focus on enhancing the versatility and performance of PFEM in challenging solid mechanics applications.

Specific requirements:

- Degree in Engineering, preferably in Civil or Mechanical Engineering
- Master’s level education required

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PhD#7: Accessible Language Models for Internal Knowledge Integration and Process Automation

Supervisor(s): Gerard Mor

Description: This PhD research aims to design and develop an accessible, domain-adapted Large Language Model (LLM) that enhances knowledge management and supports process automation within the big data architectures and large data model processing. The model will act as an intelligent assistant to facilitate interactions with internal data sources, streamline workflows, and improve the quality and consistency of technical documentation.

Specific requirements:

- Master in Computer science or data Engineering; Master in Applied Mathematics; Master in Data Science

PhD#8: Smart Energy Control: Harnessing Sequential Decision Analytics and Stochastic Forecasting in Uncertain Environments

Supervisor(s): Jordi Cipriano

Description: To develop advanced techniques for modelling and solving sequential decision problems for the automated control of distributed energy resources, especially considering high variability in renewable energy source generation, uncertain energy loads, and unpredictable extreme climate events.

Specific requirements:

- Master in Applied Mathematics; Master in Computer Science; Master in Automatic control and Robotics

PhD#9: Development of Hybrid Computational Multiphysics/AI Tools for Design and Optimization of Lab-on-Chip Devices

Supervisor(s): Pavel Ryzhakov and Riccardo Rossi

Description: Recent innovations in microfluidics and artificial intelligence (AI) have begun to revolutionize point-of-care diagnostics, yet current systems still face hurdles in early anomaly detection, real-time monitoring, and the fusion of multi-modal data streams into clear clinical decision support. Lab-on-chip (LoC) platforms promise compact, low-cost devices, but optimizing their geometry, material selection and sensor integration remains challenging. By marrying high-fidelity computational multiphysics with AI–driven surrogate modelling, we aim to push LoC design toward proactive, precision diagnostics.

Specific requirements:

- Basic programming skills and
- Knowledge of fluid mechanics

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PhD#10: Computational Framework for Online Predictive Structural Integrity in ROBOTIC SYSTEMS

Supervisor(s): Joaquin Hernandez, Riccardo Rossi

Description: As robots are deployed in ever more demanding and dynamic environments, the ability to predict structural integrity in real time is critical for preventing failures, enhancing safety, and maximizing operational performance. The Kratos Multiphysics Group proposes a novel computational framework that enables online structural forecasting. This framework integrates domain decomposition techniques and nonlinear reduced-order models (ROMs) within the Kratos.

Specific requirements:

- Basic knowledge of structural mechanics and numerical methods
- Basic programming skills

PhD#11: Numerical Modelling of soil erosion and sediment generation.

Supervisor(s): Ernest Bladé i Castellet

Description: The candidate will be integrated in CIMNE's team working in the tasks related with the existing contract with ICGC with the object to develop a flexible adaptative tool to predict soil erosion and sediment generation in Mediterranean basins. The tasks will include the development and usage of numerical tools, but also field work and data collection in order to develop tools for calibrating and validating the models. The research will consist in establishing the methodology and developing the tools for subsequent scaling to larger basins and big territories.

Specific requirements:

- Master Degree in Civil Engineering, Environmental Engineering, Agricultural Engineering or similar
- Skills and experience in the development and usage of numerical modelling tools
- Specialization in Hydrology and Soil Management

PhD#12: Uncertainty-Aware Multiphysics Modelling of Concrete Dams Using Machine Learning Surrogates

Supervisor(s): F. Salazar, I. de-Pouplana

Description: This PhD project aims to advance the state-of-the-art in the numerical modelling of concrete dams through the development of novel methods for multiphysics coupling, uncertainty quantification, and machine learning-based surrogate modelling. The research will address several critical aspects of dam behaviour, including:

• Dynamic analysis of dam-reservoir-foundation systems under seismic and transient loads, with emphasis on robust time integration schemes and non-reflecting boundary conditions to capture wave propagation effects.

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• Modelling of uplift pressure (subpressure) at the dam-foundation interface, incorporating realistic hydrogeological parameters and enabling the simulation of seepage-driven structural responses.

• Advanced contact mechanics, targeting the accurate representation of discontinuities at structural joints (e.g., between concrete blocks or at the dam-foundation interface) through the implementation of frictional contact and cohesive zone models.

In parallel, the project will develop a comprehensive framework for uncertainty quantification (UQ) by introducing probabilistic parameter modelling and conducting global sensitivity analyses. To enable efficient UQ and risk assessment, the candidate will implement and train machine learning-based surrogate models (such as Neural Networks, or other regression methods) that approximate the response of high-fidelity multiphysics simulations at a fraction of the computational cost.

All developments will be integrated into the Kratos Dam Application, expanding its capabilities as a powerful open-source tool for dam engineering and safety assessment.

Specific requirements:

- Master's degree in Civil Engineering, Structural Engineering, Computational Mechanics, Applied Mathematics, Mechanical Engineering, or a closely related field.
- Solid understanding of finite element methods (FEM) and numerical simulation of structural or multiphysics problems.

PhD#13: AI-Enhanced Flood Risk Forecasting and Early Warning System Based on Real-Time Modelling and Uncertainty Propagation

Supervisor(s): F. Salazar, E. Bladé

Description: This PhD project will contribute to the development of a next-generation early warning system for flood risk, integrating the latest advances in numerical modelling, artificial intelligence, and high-performance computing (HPC). The overarching objective is to create an automated, real-time flood risk prediction tool that continuously evaluates hazard and expected damage at regional scales, providing actionable alerts for both authorities and the general population.

The research will focus on:

• Advanced hydrological and hydraulic simulation, coupling 2D hydraulic models with real-time precipitation forecasts and damage estimation algorithms.

• Acceleration of numerical models using parallel computing and optimized code structures to achieve real-time or near-real-time simulation capacity.

• Machine Learning (ML) methods to enhance the predictive accuracy of hydrological response and damage assessment, and to enable self-calibration of the system using gauging station data and real-time image interpretation.

• Uncertainty quantification and propagation, leveraging possibilistic methods and probabilistic damage estimation to provide flood forecasts with clear risk margins and confidence indicators.

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- System architecture design that ensures scalability, modularity, and adaptability to both hardware evolution and territorial changes.

All developments will be integrated into the Iber model (www.iberaula.es).

Specific requirements:

- Master's degree in Civil or Environmental Engineering, Hydrology, Applied Mathematics, Computer Science, or related disciplines.
- Solid foundation in hydrological and hydraulic modelling, including knowledge of 2D flood simulation tools.

PhD#14: Development of a Digital Twin for high-performance component production through advanced manufacturing processes

Supervisor(s): Narges Dialami

Description: Development of a Digital Twin for high-performance component production through advanced manufacturing processes

Implementation of Reduced Order Modelling in thermomechanical simulation.

Integration of Artificial Neural Networks for advanced classification and regression in process parameter optimization

Specific requirements:

The position is aimed at students (Spanish nationals, EU and non EU citizens) who have completed one of the following options:

- The studies that lead to an official Spanish, or European Higher Education Area, 1st cycle university degree (BSc) in Structural, Civil or Mechanical Engineering and that have 180 credits (ECTS) of an official university degree.
- A degree from a non-European Higher Education Area university that gives access to PHD studies in Structural, Civil or Mechanical Engineering.

PhD#15: High Performance Simulation and AI-based Optimization for Forging Processes

Supervisor(s): Joan Baiges

Description: We are offering a PhD position within the HP4Forging project, aiming to develop a cutting-edge high-performance simulation platform for industrial forging processes, enhanced with AI-based methods for real-time optimization and process qualification.

The research will combine advanced numerical simulation with machine learning techniques to enable:

• Development of thermo-mechanical models using FEM with adaptive mesh refinement.

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• Integration of embedded geometries and HPC solvers (MPI-based).

• Application of AI/ML methods (surrogate modeling, reduced-order models) to:

  • Perform real-time optimization of process parameters.
  • Assist in online process monitoring and quality prediction.
  • Improve robustness and speed of virtual simulations

Specific requirements:

- MSc in Computational Mechanics, Applied Mathematics, or related field.
- Solid background in finite element methods, numerical analysis, and programming.
- Experience or strong interest in machine learning, data-driven modeling, or digital twins.
- Motivation to work on interdisciplinary problems combining physics-based modeling and AI.

The candidate will join a dynamic research team at CIMNE (Barcelona), with strong collaborations in both academia and industry, and access to top-tier HPC infrastructure.

Specific requirements:

- MSc in Computational Mechanics, Applied Mathematics, or related field.

PhD#16: Modeling strategies and measures to increase resilience in mobility infrastructures

Supervisor(s): Sergi Saurí

Description: The effects of climate change are increasing the vulnerability of transport infrastructures. Given the importance of these infrastructures in the economy, in recent years strategies and measures are being developed to increase the resilience of infrastructures, ranging from the design itself to the conceptualization of the transport network. The doctoral thesis will work and model several of these strategies to apply them to various types of infrastructures.

Specific requirements:

- Msc in Civil Engineering, preferably with a specialization in transportation

PhD#17: Smooth Particle Hydrodynamics for Solid and Fluid Dynamics

Supervisor(s): Javier Bonet, Alejandro Cornejo

Description: Smooth Particle Hydrodynamics (SPH) is a distretization technique in which the continuum is modelled using discrete particles carrying a fixed mass. The interaction among the particles models the

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behaviour of the continuum without the need to generate a mesh. Both fluids and solids under very large and complex motions can be simulated with this technique. Many physical and engineering application necessitate the simulation of the transition from fluid to solid or vice versa using complex thermo-mechanical constitutive equations that include nonlinear effects such as viscosity, viscoelasticity, visco-plasticity and various physics such as mechanical deformation, temperature, phase transition and possible fracture. Examples of such application can be found in problems like geo-physical flows, manufacturing processes such as friction stir welding or additive layer manufacturing. The aim of this doctoral project will be to extend existing SPH technology so that these examples of complex flows and transitions can be simulated in a manner that ensures accuracy and consistency with the physical principles.

Specific requirements:

- Strong background of education to Masters level in engineering, applied mathematics or similar subject
- Strong interest in computational mechanics, numerical modelling and simulation applied to engineering or scientific problems
- Good communication skills in English both written and verbal
- Some knowledge and interest in programming using languages such as Python or similar

Desirable:

- Knowledge of programming languages such as Julia or C
- Understanding of discretization techniques such as finite elements or finite volumes
- Good background in continuum mechanics, both for solids and fluids

PhD#18: Multiscale Simulation of Aeroelastic Energy Systems in Turbulent Flows

Supervisor(s): Juan M. Giménez, Alessandro Franci, Sergio Idelsohn, Javier Bonet

Description: Understanding and predicting the interaction between turbulent flows and deformable structures is a key challenge in enhancing the performance, diagnosis and reliability of wind energy systems. In the context of global decarbonisation goals and climate adaptation strategies, developing accurate and affordable predictive tools is essential to inform the design of more efficient and resilient renewable energy infrastructure. Conventional simulation approaches often lack the required accuracy or become prohibitively expensive when addressing multiscale, turbulence-driven aeroelastic phenomena.

Specific requirements:

- Motivated and curious candidate with a Master's degree or equivalent in computational mechanics, engineering, physics, or applied mathematics.
- Background in computational fluid dynamics, structural mechanics, or numerical methods is important, along with a strong interest in scientific programming, high-performance computing, and data-driven techniques.
- Familiarity with topics such as fluid-structure interaction, finite element analysis, or surrogate modelling (e.g., using machine learning) will be considered a plus.

- The ideal candidate is eager to learn, enjoys working collaboratively, and is committed to contributing to high-quality research.
- Fluency in English (written and spoken)

Desirable:

- Programming skills in Python, C++, or similar environments
- Experience with OpenFOAM, both as an advanced user and developer (e.g., custom solvers or libraries)

PhD#19: Super-resolution and machine-learning-assisted topology optimization approach of non-linear problems for aerospace applications

Supervisor(s): Juan Carlos Cante, Daniel Yago

Description: The project introduces a ground breaking approach to topology optimization (TO) by incorporating advanced deep learning techniques, such as Transformers and convolutional neural networks (CNNs), into established TO methodologies. It addresses two major challenges of current TO techniques: the high computational cost of three-dimensional problems with fine discretization and the difficulty of achieving high-quality optimal solutions for complex material behaviours. By leveraging cutting-edge developments in deep learning, the proposed project aims to revolutionize TO workflows, enabling efficient, precise, and scalable optimizations of nonlinear, multiscale, and multifunctional materials, thereby unlocking their potential for real-world industrial applications.

Specific requirements:

- Degree in Aerospace, Mechanical, or Civil Engineering.
- Master's degree with specialization in fields related to numerical modelling and/or machine learning techniques

PhD#20: Multiscale techniques in machine learning-aided qualification of high performance laminated composite materials

Supervisor(s): Oriol Lloberas, Juan Carlos Cante

Description: This research focuses on developing novel numerical techniques within the framework of multiscale modelling, integrated with state-of-the-art machine learning tools, to reduce the complexity associated with the characterization, validation, and ultimately the certification of laminate composite materials used in aerospace structures.

Specific requirements:

- MSc in Engineering (Mechanical, Aeronautical, Civil)
- Experience in Computational Solid Mechanics
- Hands-on programming in Matlab, Fortran Python

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PhD#21: Modelling of container shipping routes. Future scenarios for the European ports.

Supervisor(s): Sergi Saurí and Jordi Pons

Description: The uncertainties inherent in forecasts are increasingly greater, arising from the rapid progress of digitalization, environmental challenges and the social, economic and political scenario. These uncertainties are even greater in the long term, which is the usual horizon of transport and mobility policies and projects. The aim of the thesis is to identify, analyse and model various methods for planning policies and projects in deep uncertainty scenarios.

Specific requirements:

- Ms in Civil Engineering/Mathematics

Desirable:

- Knowledge of transportation

Application process

Candidates must complete the "Application Form" on our website, indicating the reference of the vacancy and selecting up to three PhD topics in order of priority, along with the required documentation.

The application deadline closes on July 7th, 2025 at 12:00 PM (CET).

Preselected candidates may be requested to submit the necessary documents listed in the "Requirements" and "Merits" sections, duly scanned. They may also be asked to undergo selection tests, which may be eliminatory, and/or participate in personal interviews.

Commitment to inclusivity

At CIMNE, we champion workplace equity, diversity, and inclusion. We're committed to fostering a culture where everyone can thrive, leveraging diverse talents and backgrounds. We welcome all applicants regardless of color, religion, gender, origin, abilities, gender identity, sexual orientation, pregnancy or any other characteristic. Join us in building a community that values, celebrates, and respects every individual.

HR Excellence in Research

CIMNE welcomes and supports the principles of European Commission's *European Charter for Researchers* and the *Code of Conduct for the Recruitment of Researchers*, embracing a transparent, attractive, and open labour market in research. The centre's Human Resources Strategy for Researchers (HRS4R) includes an

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action plan with actionable short and long-term actions to support a high-quality working environment for all. Further information can be found here.