

Forest Science and Technology Centre of Catalonia (CTFC) is a research centre affiliated with the Generalitat de Catalunya (the Catalan government), and it reports to the Ministry responsible for forest issues.

CTFC is a CERCA centre and a government accredited TECNIO agent (developer of public technology).

## Postdoctoral Researcher in Forest Modelling

**Reference: 26-06-00039**

As part of the Landscape Dynamics and Planning program, CTFC undertakes research on the ecology of landscapes in a global change context, innovation in ecosystem modelling and multi-purpose forest planning at different scales targeting multiple ecosystem services, development of cutting-edge decision support systems for forest and agroforest planning, as well as fire ecology and other natural disturbances.

The candidate will work in projects of both the Landscape Modelling and the Precision Forestry (PRECFOR) groups and will be involved in the execution of competitive research forest modelling and forest planning, and knowledge transfer tasks related to the characterization of the current state of forest resources, the modelling of dynamic ecosystems and the provision of ecosystem services, and modelling fire risks and fire growth. This research position at CTFC offers an excellent opportunity to develop a scientific career in applied forest sciences research in a stimulating and transdisciplinary working environment.

Within this program, CTFC is seeking to appoint a post-doctoral senior researcher to lead and conduct fundamental and applied research related to:

- Work on the use of remote sensing for forest management.
- Work on modelling forest dynamics and the provision of ecosystem services.
- The tasks carried out will be synergistic with the objectives of different projects carried out at CTFC and will concentrate mainly in monitoring, reporting and verification of different ecosystem indicators (e.g. biomass, fuel models, changes in LAI, etc...) and on the integration of these in forest planning.
- The work will involve the acquisition and analysis of field and remote sensing data at different levels (e.g. Europe, Spain, Regional). It will further involve the development of dynamic models to project the evolution of landscapes and the provision of ecosystem services.
- Develop fuel models and their integration and use in wildfire growth models.
- Integrate into Decision Support Systems the models developed, and the data collected to address the effects of different forest management approaches on the provision of ecosystem services and effects of climate change on forests.

The Forest Science and Technology Centre of Catalonia (CTFC), located in Solsona (Pre-Pyrenees, 120 km from Barcelona), Spain, employs app. 200 staff, produces more than 120 scientific articles annually, and has a turnover of around 12 Mil. €/year. The CTFC's research activity is organized into four programs: Multifunctional Forest Management, Landscape Dynamics and Planning, Biodiversity Management and Conservation, and Bioeconomy, Health, and Governance. Further institutional information is available at: [www.ctfc.cat/en](http://www.ctfc.cat/en).

## **TERMS OF THE APPOINTMENT**

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1. This contract may start on September 2026.
2. It is a full-time position with a duration of 2 years (with possibility of contract extension).
3. The candidate will be based at CTFC in Solsona (NE Spain), working as member of the Landscape Dynamics and Planning program.
4. Based on CTFC labour categories, annual gross salary will be approximately 33.500€/year (gross salary).
5. Working time: 37.5 hours per week
6. 23+6 days of holidays per year and good family-work balance conditions
7. Travelling abroad to collaborate with other researchers and stakeholders.

## **KEY RESPONSABILITIES**

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1. Improve existing and already applied methodologies for forest attribute imputation using new artificial intelligence techniques, incorporating a new set of target variables (build and maintain an integrated National Forest Inventory (NFI)–LiDAR database to train and validate models).
2. Develop models for species classification, shrub & grassland spatial distribution, segmentation of forest cover
3. Develop and implement a new methodology for adjusting forest projection models, specifically the species-specific diameter-class distributions
4. Develop dynamic models to project the provision of different ecosystem services.
5. Integrate these models into the FORMES simulation system.
6. Generate forest maps at the regional level with variables at the tree and understory level to be able to make future predictions with simulation systems that work at the tree level (e.g., FORMES).
7. Project proposals preparation and fundraising.
8. Publication in scientific journals and dissemination of results in scientific and technical meetings and knowledge transfer activities.
9. Contribution to other institutional activities.

## **MANDATORY REQUIREMENTS**

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1. The candidate must hold a completed PhD on Forest Sciences, Environmental Sciences, Bioinformatics, or related suitable discipline for the main topic of this call.
2. Demonstrated knowledge and experience in forest modelling, use of remote sensing data and information, time-series analysis, environmental modeling, machine learning, and statistics
3. Demonstrated computer skills in the use of GIS for spatial data management.
4. Demonstrated experience on predictive models based on IA applied to multi-scale ecological dynamics
5. Demonstrated experience on fuel models, fire-related variables, and wildfire behaviour modelling.
6. Experience in programming (R, C++, Python) and using advanced statistical techniques, including some specific remote sensing data processing programs.

7. Administration of Linux environments and management of remote connections using SSH for working with servers and high-performance computing
8. Use of Git and GitHub through Visual Studio Code (VS Code) for version control, process documentation, and collaborative workflow management.
9. Proven fluency in spoken and written Spanish and English.

## **DESIRABLE REQUIREMENTS**

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The assessment will put particular emphasis on:

1. Master's degree in management of Natural Resources is an asset.
2. Solid understanding of forest inventory methods, forest structure metrics, and ecological modelling.
3. Experience applying IA or similar imputation techniques for forest attribute prediction.
4. Familiarity with Sentinel-1 and Sentinel-2 products, including preprocessing and feature extraction.
5. Experience developing or applying forest growth, yield, or projection models.
6. Scientific proficiency in technology and engineering subjects that are relevant to the position.
7. The authorship of relevant scientific publications.
8. Strong analytical skills and the ability to work independently as well as collaboratively within a research team.
9. Previous participation in research projects, especially those related to RS and forestry.
10. Ability to disseminate scientific results.
11. Readiness to work in multi-disciplinary teams.
12. Ability to develop independent research and answer scientific questions.
13. Ability to collaborate and complement the ongoing research within the group.
14. Catalan is an asset.

## **SOFT COMPETENCES**

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1. Ability of fast learning and critical thinking.
2. Strong teamwork and collaboration skills, with the ability to work effectively in multidisciplinary environments.
3. Good problem-solving abilities and a proactive approach to overcoming challenges.
4. Effective coordination and leadership skills, with the capacity to guide tasks and support team objectives.
5. Excellent communication, organisational, and execution skills, combined with a high level of autonomy and independence.

## **CONTACT**

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The CTFC guarantees an open, transparent, and merit-based selection process (OTM-R) for all registered applications, thus avoiding any bias based on gender, origin, age, ideology, or any other potentially discriminatory circumstances. Inclusion policy: Priority will be given to candidates with a recognized and accredited disability of 33% or higher, provided that the disability is compatible with the proper performance of the position.

## SELECTION PROCESS AND CRITERIA

The selection process will be carried out through a two-stage procedure. The first stage will primarily target candidates from the consortium entities, given the nature of the position. The second stage will include the remaining candidates who have correctly submitted their application within the established deadline.

- Applications: Candidates must submit a CV and a motivation letter via [www.ctfc.cat/registre.php](http://www.ctfc.cat/registre.php) by **13 July 2026 at 14:00**, indicating the reference code of the job offer. Applications submitted through portals other than the CTFC's own job board will not be accepted, nor will those received through the SOC that do not follow the instructions specified in the call itself.

The position subject to this call may be declared vacant if the selection committee considers that, despite the existence of candidates who meet the minimum requirements, none is deemed suitable for the position.

Estimated timeline	
15 working days	Publication and dissemination of the job offer: CTFC website, SOC Office, and other communication channels.
Following 2 working days	Pre-selection: verification of compliance with the minimum requirements and assessment of desirable conditions. Informative email sent to non-eligible CVs.
Following 2 working days	Selection committee meeting: interviews with shortlisted eligible candidates.  Minutes of the Selection Committee stating the name of the selected candidate and the reasons for the selection. Publication of the resolution on the CTFC job portal identifying the selected candidate.  Informative email sent to interviewed eligible candidates who were not selected.
Following 1 working day	Submission to Human Resources of the official documentation required to process the employment contract and coordination of the contract start date.
September 2026 (approximately)	Start of the contract.