

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).

It was granted a 'Human Resources Excellence in Research' award by the European Commission, recognizing CTFC as a European research institution that fosters an attractive and motivating work environment.

## Post-Doctoral offer in landscape ecology, environmental modelling, and forest planning

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**Reference:** 23-04-00001

The Landscape Dynamics and Biodiversity program is looking to recruit a **post-doctoral researcher** to lead fundamental and applied research related to:

- Advanced methodologies and algorithms for forest stands segmentation and forest imputation (using LiDAR data)
- Multi-criteria evaluation of forest management scenarios and ecosystem services
- Multi-objective spatial optimization to guide decision-making for the design of resilient agroforest landscapes

**The Forest Science and Technology Centre of Catalonia (CTFC)**, located in Solsona (Pre-Pyrenees, 120 km from Barcelona), Spain, employs app. 100 staff, produces >100 scientific articles annually and has a turnover of app. 6 Mil. €/year. CTFC's research activity is organised around three programs: Multifunctional Forest Management, Landscape Dynamics and Biodiversity, and Bioeconomy and Governance. Further institutional information is available at: [www.ctfc.cat/en](http://www.ctfc.cat/en).

As part of the **Landscape Dynamics and Biodiversity program**, CTFC undertakes research on the ecology of landscapes and biodiversity in a global change context, innovation in 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 be part of the **Precision Forestry (PrecFOR) group** and will be involved in the execution of competitive as well as knowledge transfer projects related to designing resilient agroforest landscapes and the estimation of future provisioning of ecosystem services. This research position at CTFC offers an excellent opportunity to develop a scientific career in applied forest research in a stimulating work environment.

### TERMS OF THE APPOINTMENT

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1. The contract may start on June 2023 (start could be delayed to July or August if necessary).
2. It is a full-time position with a scientific-technical activities contract.
3. Based on CTFC labour categories, annual gross salary will be adjusted to the foreseen role and will be commensurated with the specific profile of the selected candidate (qualifications and experience), ranging between 32.000 – 39.000 €/year.

4. The candidate will be based at CTFC in Solsona (NE Spain), with remote working options according to the institution norms (max. 20 h/week).
5. Working time: 37.5 hours per week.
6. 23+6 days of holidays per year. Good family-work balance conditions.
7. Travelling abroad to collaborate with European or American researchers.

### **KEY RESPONSIBILITIES**

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Key tasks and responsibilities will include:

1. Use of statistical techniques and database management skills to compile and generate climatic, soil, and forest data used as inputs of forest dynamics and soil plant water balance models. See more at <https://ctfc.cat/en/formes.php> and <https://emf-creaf.github.io/medfate/>.
2. Spatial and temporal downscaling of global climatic projections to be used in the modelling environments.
3. Use machine learning methods, forest inventory and LiDAR data to generate forest stands maps (segmentation) and tree species distributions (imputation).
4. Add new functionalities to the forest stand dynamics model to adapt it to new requirements and be able to answer broader research questions related to spatial planning and ecosystem management.
5. Search, adapt, or create new indicators for key landscape-scale forest ecosystem services such as fire risk, biodiversity, and social use of the territory.
6. Participate in the definition of landscape-scale scenarios together with stakeholders to design resilient agroforest landscapes.
7. Simulate the scenarios in the modelling environments.
8. Work with spatial optimization tools.
9. Prepare data to feed an information system to disseminate the outputs of the landscape-scale scenarios and estimates of future provisioning of multiple ecosystem services.

### **BASIC REQUIREMENTS**

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1. A PhD in forestry, plant ecology, environmental sciences, terrestrial biology, spatial planning, computer science, bioinformatics and biostatistics, mathematical modelling, data science, or related suitable discipline for the main topic of this call.
2. Advanced expertise in programming and using advanced statistical techniques.
3. Demonstrated computer skills in the use of GIS for spatial data management.
4. Knowledge of spatial optimisation algorithms is an asset.
5. Fluent in using LiDAR data is an asset.
6. Proven fluency in spoken and written English.

### **DESIRABLE REQUIREMENTS**

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1. Applicants should have a good expertise in forest ecosystems.
2. Previous experience in application for competitive international research calls.
3. Demonstrated experience in R+D projects and leading capacities.
4. Ability to disseminate scientific results.
5. Good communication skills. Capacity to write technical reports.
6. Readiness to work in multi-disciplinary teams.

7. Excellent organizational skills and capacity to deliver tasks in a timely manner to deadlines.
8. Flexibility, adaptation, and availability to travel locally and internationally.
9. Fluency in Spanish would be an asset.

### SOFT COMPETENCES

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1. Team player.
2. Critical thinking and attention to detail.
3. Capacity to work under pressure.
4. Ability to plan and organize their work independently.
5. Result oriented.
6. Flexibility and adaptation.
7. Initiative and pro activity.
8. Availability to travel sporadically.

### CONTACT

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**CTFC guarantees an open, transparent, and merit-based recruitment process (OTM-R) to all registered candidacies avoiding thus any bias on gender, origin, age, ideology, or other circumstances that could be discriminatory.**

**Integration policy:** reservation of a place for staff with a certificate of recognized disability.

### SELECTION PROCESS AND CRITERIA

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The selection process is led by the Human Resources Area of CTFC. This process consists of:

1. **Admission of candidates:** applicants must submit a curriculum vitae and letter of intent addressed to [borsa.treball@ctfc.cat](mailto:borsa.treball@ctfc.cat), **until 14<sup>th</sup> May 2023**, indicating the reference code of the offer.
2. **Pre-selection:** verification of compliance with the minimum requirements of the offer.
3. **Selection (from May 15<sup>th</sup> to May 31<sup>st</sup>, 2023):** assessment of the preselected candidates by scoring based on objective criteria and interview.
4. **Final decision:** in case of finding the suitable person, the election will be formally communicated to him/her, and the identification of the chosen person will be published on CTFC job openings section.

Further information: [borsa.treball@ctfc.cat](mailto:borsa.treball@ctfc.cat)