

Carbon Determination, Savanna Restoration - 23PDR257-  
Postdoctoral  
University de São Paulo

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**Job Title** Carbon Determination, Savanna Restoration - 23PDR257- Postdoctoral

**Department** Plant Biology

<https://sites.usp.br/rcgi/>

**Institution** University de São Paulo

Sao Paulo, Sao Paulo, Brazil

**Date** Apr. 5, 2024

**Posted**

**Application** Dec. 29, 2023

**Deadline**

**Position** Mar. 1, 2024

**Start Date**

**Job** Post-Doc

**Categories**

**Academic** Agricultural

**Field(s)**

**Job** <https://sites.usp.br/rcgi/opportunities/>

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**Description**

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The Cerrado represents one of the most complex natural ecosystems within the tropics. The landscape is composed of grasslands, savannahs and forest formations, which are interdigitated at very fine geographical scales. However, little is known about the carbon stocks, allocation and dynamics at different vegetation types in the cerrado. Different physiognomies within each vegetation class can stock highly varying amounts of above ground carbon per hectare, alongside extremely uncertain variations in belowground carbon stocks. Without understanding these variations understanding the carbon sequestration potential of restoring these various physiognomies across the cerrado will remain highly uncertain. This project will directly address this, through providing a step-change in the available data on above and below ground carbon stocks and fluxes across different cerrado physiognomies. The objective of this proposal will be to undertake estimates of above and below- ground carbon stocks and dynamics in different Cerrado physiognomies including dry and wet grasslands, savannahs and forests. We will include both native and, where possible, restored vegetation within our estimates. Additionally, we will measure soil carbon stocks and CO<sub>2</sub> and CH<sub>4</sub> fluxes along hydrological gradients. We hypothesize that the water table level is a key driver of carbon dynamics and stability above and belowground.

The professional will collaborate with researchers from the project restoreC of the FAPESP-Shell Research Centre for Gas Innovation of POLI-USP at the University of São Paulo. Summary of the program and projects can be found at the RCGI website (<http://www.rcgi.poli.usp.br/>).

The applicant will contribute in line with the main objectives of the project:

1. Understand the biophysical causes and water stress resilience of carbon fluxes, stocks and allocation occurring in native and restored ecosystems in the cerrado megasite, as a way to explore pool stability of carbon in future climate change scenarios.
2. Assess the biophysical and management determinants of carbon storage in restored Cerrado ecosystems through an extensive biome-scale field plot inventory network.
3. Apply new field-based remote sensing approaches to assess how vegetation structure relates to aboveground carbon accumulation in stages of restoration and management in the Cerrado.

This project would be well-suited to a highly motivated candidate requiring excellent skills and experience with quantitative data analysis, statistics, and modelling, experience with programming languages (R, Python, or other), ability to work collaboratively in a group; excellent oral and written communication skills; good knowledge of Portuguese and English.

- The candidate must hold a Ph.D. degree in areas related to environmental sciences, forest engineering, ecology, physics, physical geography or remote sensing, obtained no longer than seven years before the grant acceptance date;

Funding Notes: This Postdoc fellowship is funded by FAPESP. The scholarship grant will cover a standard maintenance stipend of BRL 9.047,40 (monthly) plus a research contingency fund equivalent

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to 10% of the scholarship value (to purchase items directly related to research activity).  
Work

**Contact Information**

Please reference Academickeys in your cover letter when  
applying for or inquiring about this job announcement.

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