

CALL FOR FACULTY POSITION

## ANNOUNCEMENT 18/2025/CENA/DVACAD

**APPLICATIONS ARE NOW OPEN FOR THE SELECTION PROCESS FOR A DOCTOR PROFESSOR POSITION AT THE CENTER OF NUCLEAR ENERGY IN AGRICULTURE, UNIVERSITY OF SÃO PAULO, BRAZIL.**

The Director of the Center of Nuclear Energy in Agriculture, University of São Paulo (CENA/USP), Brazil, announces all interested persons that, per the decision reached at the ordinary session of the Deliberative Council held on June 10<sup>th</sup>, 2025, applications are open for 90 (ninety) days, from June 27<sup>th</sup>, 2025, at 8 a.m., to September 25<sup>th</sup>, 2025, at 5 p.m. (GMT -3), for the selection process of titles and examinations to fill one (1) position of Doctor Professor, position nº 1264052, in full-time dedication service.

The position requires commitment to teaching and ability to conduct independent research in the study area: **"Isotopic Ecology"**. The selection process will comprehend the following program:

1. Fundamentals of Isotopic Ecology

- Fundamental concepts and terminology in the study of isotopes of light elements (carbon, nitrogen, oxygen, hydrogen) and the radiogenic isotope of strontium ( $^{87}\text{Sr}/^{86}\text{Sr}$ ).
- Fundamentals of isotopic enrichment of oxygen and hydrogen in plants and the Craig-Gordon model.
- Principles of isotopic hydrology and its applications in the study of climate change.

2. Applications in Terrestrial Ecosystems

- Carbon isotopic responses in C3 and C4 plants to environmental factors and climate change.
- Nitrogen sources (fertilizers, biological fixers and soil) and their influence on the nitrogen isotopic composition in plants, with applications in ecology and agriculture.
- Nitrogen cycling in tropical forests and the use of stable isotopes as an investigative tool.
- Stable isotopes of carbon and nitrogen in soil organic matter as indicators of changes in land use and climate.

3. Applications in Aquatic Ecosystems

- Isotopic variations of carbon and nitrogen in continental and marine aquatic environments.

4. Applications in Food Ecology

- Use of stable isotopes in tracking the diet of wild animals: principles and applications of Bayesian mixing models.
- Reconstruction of the dietary history of human populations through isotopic analyses.

5. Applications in Traceability and Forensic Sciences

- Application of stable isotopes in determining the origin and detecting adulteration in food and beverages.
- Concepts and applications of isoscapes in traceability studies of animals and agricultural products.
- Fundamentals and applications of the radiogenic isotope of strontium ( $^{87}\text{Sr}/^{86}\text{Sr}$ ) in provenance studies for environmental and forensic purposes.

The selection process will be governed by Brazilian constitutional principles, notably that of impersonality, as well as by the provisions of the Statute and General Rules of the University of São Paulo and the Internal Rules of the Center of Nuclear Energy in Agriculture.



The selection process will be carried out according to objective criteria, in two stages, through the attribution of scores in exams, divided as follows:

1<sup>st</sup> stage (eliminary) - written exam (weight 1)

2<sup>nd</sup> stage:

I) evaluation of the Memorial with public proof of argumentation (weight 4)

II) didactic exam (weight 2)

III) presentation of the research project and respective arguments (weight 3)

The exams can be performed in Portuguese or English.

The call for applicants to take the exams will be published in the Official State Gazette. Candidates who present themselves after the established time will not be able to take the exams.

The official announcement in Portuguese is available at <https://uspdigital.usp.br/gr/admissao> where registration applications must be made during the period stated above.