

CALL FOR FACULTY POSITION
ANNOUNCEMENT 21/2025/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 10th, 2025, applications are open for 90 (ninety) days, from July 8th, 2025, at 8 a.m., to October 6th, 2025, at 5 p.m. (GMT -3), for the selection process of titles and examinations to fill one (1) position of Doctor Professor, position n° 1264028, in full-time dedication service.

The position requires commitment to teaching and ability to conduct independent research in the study area: **“Genome Editing in Agriculture and Environment”**. The selection process will comprehend the following program:

- Molecular biology fundamentals applied to genome editing: genome organization; DNA repair mechanisms; homologous recombination.
- Fundamentals and historical and technological evolution of genome editing tools Meganucleases, ZFNs (Zinc Finger Nucleases), TALENs (Transcription Activator-Like Effector Nucleases), Retrons and CRISPR/Cas (Cluster Regularly Interspaced Short Palindromic Repeats and CRISPR-Associated Protein) systems.
- Structures, functioning and diversity of CRISPR/Cas systems: Cas9, Cas12, Cas13, Cas14 and their variants.
- Application of CRISPR/Cas systems in agricultural and environmental biotechnology: action mechanism, guides design, vectors and delivery methods in plant cells, fungi and microorganisms; strategies to avoid off-target effects.
- Precision genome editing: concepts, advantages and limitations of prime editing and base editing.
- Epigenetic editing and control of gene expression (CRISPRi/CRISPRa).
- Self-driving CRISPR systems (gene drive) and their applications in pest population control.
- Experimental validation approaches and analysis of off-target effects in genome editing.
- Use of genome editing in agricultural and environmental applications.
- Ethical, regulatory and biosafety aspects of genome editing in agriculture and the environment.
- Integration of genome editing with other omics approaches, bioinformatics and artificial intelligence.

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:

1st stage (eliminary) - written exam (weight 1)

2nd 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.