

Post-Doctoral Fellowship in Toxicology and Monitoring of New Psychoactive Substances (FAPESP) – University of Campinas, Brazil

Institution: University of Campinas (UNICAMP), Brazil

Host Laboratory: Laboratory of Analytical Toxicology

Supervisor: Prof. Dr. José Luiz da Costa

Location: Campinas, São Paulo, Brazil

1. Overview

The Laboratory of Analytical Toxicology at the University of Campinas (UNICAMP) invites applications for a Post-Doctoral Research Fellowship funded by the São Paulo Research Foundation (FAPESP) within the project “Monitoring of New Psychoactive Substances in the State of São Paulo: Integrated Actions for Public Policies in Public Health and Public Security (NPS-Monitor Project)”, supported by the FAPESP Research Program on Public Policies (PPPP).

The project aims to establish a systematic monitoring system for new psychoactive substances (NPS) in the State of São Paulo by integrating toxicological data from intoxication cases and forensic analyses of seized drugs.

This initiative is conducted in collaboration with the Superintendence of the Scientific Police of the State of São Paulo (SPTC) and involves the development of analytical methods, toxicological data integration, and data science tools to support evidence-based public policies in drug surveillance, public health, and public security.

The selected postdoctoral researcher will contribute to analytical toxicology research, toxicological surveillance, and the development of data integration strategies for monitoring emerging synthetic drugs.

UNICAMP is one of the leading research universities in Latin America and provides an excellent environment for interdisciplinary research and international collaboration.

2. Research Project

Monitoring of New Psychoactive Substances in the State of São Paulo: Integrated Actions for Public Policies in Public Health and Public Security (NPS-Monitor Project)

The rapid emergence of new psychoactive substances (NPS) represents one of the most significant challenges currently faced by public health systems and law enforcement agencies worldwide. These synthetic compounds often present high potency and unpredictable toxicological profiles, which may result in severe intoxications and fatalities.

The NPS-Monitor Project aims to establish a systematic monitoring system for NPS in the State of São Paulo, integrating toxicological data from clinical intoxication cases and forensic analyses of seized drugs. The project is designed to generate scientific evidence capable of supporting public policies related to drug surveillance, public health, and public security.

The project is conducted through a collaboration between the University of Campinas (UNICAMP) and the Superintendence of the Scientific Police of the State of São Paulo (SPTC), the public institution responsible for forensic examinations of seized drugs and official toxicological analyses in the state.

A key component of the project is the development and validation of a broad-scope analytical method for the detection of NPS in biological samples (whole blood and urine) collected in both antemortem and postmortem forensic investigations. The analytical workflow will enable comprehensive toxicological screening of emerging

substances and will be applied to samples analyzed in forensic laboratories of the SPTC as well as to clinical intoxication cases reported by CIATox-Campinas.

Toxicological findings from forensic reports and drug seizure analyses will be integrated into a centralized monitoring database, enabling the identification of emerging substances and patterns of drug use. Variables such as seizure location, date, quantity of drugs seized, substances identified, and toxicological findings will be analyzed to detect temporal, geographical, and demographic trends in NPS use.

To facilitate data analysis and information dissemination, the project will develop a data monitoring platform based on business intelligence (BI) tools, allowing visualization of trends through dashboards and analytical reports. Non-sensitive information will be made publicly available to support transparency and evidence-based decision making.

By integrating analytical toxicology, forensic science, public health surveillance, and data science, the NPS-Monitor Project aims to establish a robust monitoring network capable of identifying emerging NPS trends and supporting early warning mechanisms for synthetic drugs in the State of São Paulo. The knowledge generated through this initiative may serve as a model for the development of national monitoring systems for new psychoactive substances in Brazil.

3. Position Details

Position: Postdoctoral Researcher

Funding Agency: São Paulo Research Foundation (FAPESP) – Research Program on Public Policies (PPPP)

Host Institution: University of Campinas (UNICAMP), Brazil

Host Laboratory: Analytical Toxicology Laboratory

Supervisor: Prof. Dr. José Luiz da Costa

Duration: Up to 36 months initially, subject to FAPESP approval and Fellowship regulations.

Location: Campinas, São Paulo, Brazil

Expected Start Date: Between January and March 2027

The selected postdoctoral researcher will participate in the NPS-Monitor Project, contributing to the development of analytical and data-driven approaches for monitoring new psychoactive substances.

The main research activities may include:

- Development and validation of analytical methods for detection of NPS in biological samples;
- Application of analytical workflows to forensic and clinical toxicology cases;
- Analysis and interpretation of toxicological and forensic datasets
- Integration of toxicological findings into a monitoring database;
- Collaboration with researchers, forensic scientists, and public health institutions involved in the project;
- Contribution to scientific publications, technical reports, and policy-oriented outputs.

The researcher will work in a highly interdisciplinary environment, interacting with experts in analytical toxicology, forensic science, public health, and data science.

4. Fellowship Conditions

The fellowship will be funded through the FAPESP Postdoctoral Fellowship Program, one of the most competitive research funding programs in Latin America.

The fellowship currently provides:

- Monthly stipend: approximately R\$ 12,000.00 (tax-free)
- Research contingency funds (Technical Reserve): approximately 10% of the annual fellowship value, to support research-related expenses such as scientific travel, equipment, and consumables
- Relocation allowance for researchers moving to the State of São Paulo

- Access to additional funding opportunities within FAPESP programs

The FAPESP Post-Doctoral Fellowship requires exclusive dedication to the research project. Throughout the term of the Fellowship, Recipients are not permitted to hold formal employment, receive a fellowship from any other entity, or perform remunerated activities of any kind, except in the exceptional and justified circumstances foreseen in PR Ordinance No. 05/2012. The Fellowship Recipient is also required to register for and participate in the Mentoring Program for the Consolidation of Careers in Research promoted by FAPESP (mentoriapd.fapesp.br), as well as to comply with the FAPESP Open Access Policy and the Data Management Plan associated with the project.

FAPESP postdoctoral fellows may also apply for RIA (Research Internship Abroad), which supports short-term research stays at international institutions. The fellowship is subject to the rules and approval procedures of the São Paulo Research Foundation (FAPESP). Further information about the FAPESP Postdoctoral Fellowship Program is available at: <https://fapesp.br/en/postdoc>

5. Eligibility Requirements

Applicants must meet the following eligibility criteria:

- A PhD degree in Toxicology, Pharmacology, Analytical Chemistry, Pharmaceutical Sciences, Forensic Sciences, Public Health, or related fields.
- The PhD degree must have been obtained no more than seven years prior to the application deadline, in accordance with FAPESP Post-Doctoral Fellowship regulations, except under the conditions provided for in PR Ordinance No. 171/2024, which contemplates extensions of the eligibility period for maternity/paternity leave, disability, temporary disabilities, or intensive care for ill, elderly, or disabled people.
- Demonstrated record of peer-reviewed scientific publications.

- Background or research experience in areas related to the project, such as:
 - Analytical toxicology
 - Mass spectrometry (LC-MS/MS or LC-HRMS)
 - Xenobiotic metabolism
 - Experimental toxicology
 - Pharmacokinetics or toxicokinetics
 - Drug monitoring or forensic toxicology
- Proficiency in spoken and written English.

Applicants must also be eligible to apply for a FAPESP Postdoctoral Fellowship, according to the foundation's rules. Further information about eligibility requirements is available at: <https://fapesp.br/en/postdoc>

6. Desired Qualifications

Preference will be given to candidates with experience in one or more of the following areas:

- High-resolution mass spectrometry (HRMS) platforms, such as QTOF or Orbitrap;
- Identification and characterization of new psychoactive substances (NPS);
- Broad scope or untargeted toxicological screening workflows;
- Metabolomics or suspect screening approaches;
- Experimental toxicology models, including zebrafish or other *in vivo* models;
- Forensic toxicology or drug monitoring systems;
- Data analysis, statistics, or data science approaches applied to toxicology or public health data;
- Experience with data visualization or business intelligence tools for scientific or epidemiological data analysis.

Additional strengths include:

- Experience working in interdisciplinary research environments;
- Ability to collaborate with forensic laboratories, public health institutions, or governmental agencies;
- Strong scientific writing skills and motivation to contribute to high-impact scientific publications.

7. Application Documents

Applicants must submit the following documents in PDF format:

1. *Curriculum Vitae* or FAPESP Curricular Summary (available at fapesp.br/6351), including academic background, research experience, publications, and relevant technical skills.
2. Motivation Letter (font: Arial; font size: 12 pt; line spacing: 1.5; text alignment: justified; margins: 2.5 cm on all sides; maximum length: 2 pages), describing the candidate's research interests, career goals, and motivation to contribute to the NPS-Monitor Project.
1. List of Publications, highlighting peer-reviewed articles and other relevant scientific outputs.
2. Research Statement (1–2 pages) describing how the candidate's expertise and previous research experience could contribute to the objectives of the NPS-Monitor Project.
3. Contact information for two academic referees, who may be contacted during the selection process.
4. Copy of the PhD diploma or official certificate confirming completion of the doctoral degree.
 - a. Applicants who have not yet received their PhD diploma may apply, provided that they submit an official statement from their university confirming that the doctoral defense is scheduled or that all requirements for the PhD degree will be completed before the start of the fellowship.

- b. Selected candidates must present proof of the completed doctoral degree upon acceptance of the Fellowship by FAPESP, in accordance with the rules of the FAPESP Post-Doctoral Fellowship Program.

All application documents must be submitted in English or Portuguese. Applications should be sent as a single PDF file to the email address indicated below.

8. Selection Process

The selection process will consist of two stages.

Stage 1 – Document Evaluation

All submitted applications will be evaluated by the selection committee based on the following criteria:

- Scientific productivity and publication record
- Academic and technical background relevant to the project
- Alignment of the candidate's expertise with the objectives of the NPS-Monitor Project
- Quality of the motivation letter and research statement
- Academic references

Based on this evaluation, a shortlist of candidates will be selected for the next stage.

Stage 2 – Online Interview

Shortlisted candidates will be invited to participate in an online interview, which may include:

- A short presentation of the candidate's previous research experience
- Discussion of the candidate's expertise and potential contributions to the project
- Questions from the selection committee

The interview will also assess:

- Scientific independence

- Ability to work in interdisciplinary environments
- Communication skills and motivation for the project

Final Selection

The final decision will consider the overall evaluation of the application documents and the interview performance.

The selection committee may also establish a ranking of candidates, including a primary candidate and alternate candidates.

The selection conducted by the host institution does not, in itself, constitute the award of the Fellowship. The selected candidate's name will be submitted to FAPESP for the formal Post-Doctoral Fellowship application, and the award is contingent upon FAPESP's independent peer-review process and final approval. Should the selected candidate not be approved by FAPESP, the selection process may be reopened, in accordance with FAPESP's internal regulations.

9. Selection Committee

Applications will be evaluated by a selection committee composed of researchers from the host institution and collaborators involved in the NPS-Monitor Project. The committee will be coordinated by the Principal Investigator of the project and may include additional researchers with expertise in analytical toxicology, forensic science, public health, or related fields. External experts may be invited to participate in the evaluation process when appropriate.

10. Application Deadline

Applications must be submitted no later than June 15th, 2026 (23:59, Brasília Time – BRT).

Applications should be sent by email to: toxicologia@unicamp.br with the subject line: *Postdoctoral Application – NPS-Monitor Project (FAPESP PPPP)*. Applicants must submit all required documents as a single PDF file.

Only complete applications received before the deadline will be considered. Only shortlisted candidates will be contacted.

11. Equal Opportunity Statement

The University of Campinas (UNICAMP) is committed to promoting diversity, equity, and inclusion in research and academic environments. Applications are welcome from candidates of all nationalities, genders, ethnic backgrounds, and career paths. The selection process will be based exclusively on academic merit and the candidate's potential to contribute to the objectives of the NPS-Monitor Project. UNICAMP strongly encourages applications from international researchers and candidates from underrepresented groups in science.

12. Contact Information

For further information about the position or the application process, please contact:

Analytical Toxicology Laboratory

University of Campinas (UNICAMP)

Campinas, São Paulo, Brazil

Email: toxicologia@unicamp.br

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(FAPESP) – University of Campinas, Brazil**

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The project aims to establish a monitoring system for new psychoactive substances (NPS) in the State of São Paulo, integrating toxicological data from clinical intoxication cases and forensic analyses of seized drugs. Research activities include the development of broad-scope analytical methods for NPS detection in biological samples, analysis of toxicological and forensic datasets, and the integration of information into a data monitoring platform to support public health and public security policies.

The project is conducted in collaboration with the Superintendence of the Scientific Police of the State of São Paulo (SPTC).

The fellowship offers a monthly tax-free stipend (~R\$12,000), research funds, and opportunities for international collaboration.

Application deadline: June 15th, 2026.