Department of Statistics Institute of Mathematics and Statistics University of São Paulo – Brazil

Call for Applications: Tenure-Track Assistant Professor in Statistics

Submission deadline: September 11, 2025 – 5 p.m. (GMT -3)

(EDITAL ATAC/030/2025/IME-USP)

Opening a Faculty Position in the **Department of Statistics** of **the Institute of Mathematics** and **Statistics** at the **University of São Paulo**.

The Department of Statistics (MAE-IME) at the Institute of Mathematics and Statistics of the University of São Paulo invites applications for one tenure-track assistant professor position. MAE-IME engages in cutting-edge fundamental and applied research in Data Science, Probability, and Statistics, and aims to provide world-class education: https://www.ime.usp.br/en/statistics-department/

Applications are welcome from candidates whose expertise complements and synergizes with any of the department's broad areas of research in Data Science and Statistics. Candidates with an excellent research track record are especially encouraged to apply. The successful candidate is expected to develop a vibrant, externally funded research program and to foster a departmental and campus environment that values diversity, equity, and inclusion.

A Ph.D. is required at the time of appointment. The successful candidate must demonstrate a strong commitment to teaching and the capacity to conduct independent research. The starting monthly salary at the MS-3 level is R\$16,353.01 (as of May 2025), plus benefits.

Applicants may use Portuguese or English in their written materials and oral presentations.

The teaching demonstration will be public and based on the syllabus of the course MAE5702 – Probability and Statistical Inference I, from the graduate program in Probability and Statistics at IME-USP:

Module I – Probability:

- 1. Probabilistic models and the calculation of probabilities: axioms, elementary properties, discrete and combinatorial modeling, continuous modeling and integration.
- 2. Random variables, random vectors, distributions, and moments: concepts and special families of univariate and multivariate models.
- 3. Independence and conditioning: concepts and examples.
- 4. Distributions of transformations of random vectors.
- 5. Sampling distributions from normal populations: chi-square, F, and t distributions; orthogonal transformations.

6. The law of large numbers and the central limit theorem.

Module II – Mathematical Statistics:

- 1. Basic concepts: statistical models, estimation, hypothesis testing, and other problems of classical inference.
- 2. Estimation methods: method of substitution, least squares, maximum likelihood, and applications.
- 3. Criteria for evaluating estimators: the Cramér-Rao inequality; minimum variance estimators, efficiency, and asymptotic efficiency.
- 4. Confidence intervals: concepts, interpretation, and construction.
- 5. Hypothesis testing: the Neyman-Pearson lemma, composite hypotheses, power function, likelihood ratio tests, and SPRT.
- 6. Tests for mean and variance in normal populations: comparison of populations and the Behrens-Fisher problem.

References:

- 1. James, B.R. (1981). *Probabilidade: um curso em nível intermediário.* CNPq-IMPA Projeto Euclides.
- 2. Casella, G., & Berger, R. L. (2002). Statistical Inference. Pacific Grove, CA: Duxbury.
- 3. DeGroot, M. H., & Schervish, M. J. (2012). *Probability and Statistics*. Pearson Education.
- 4. Roussas, G. G. (1997). A Course in Mathematical Statistics. Academic Press.
- 5. Ross, S. (2014). A First Course in Probability. Pearson.
- 6. Magalhães, M. N. (2006). Probabilidade e variáveis aleatórias. Edusp.
- 7. Hoel, P.G., Port, S., & Stone, C. (1971). *Introduction to Statistical Theory.* Houghton-Mifflin.

The research project must clearly focus on one of the following areas, including details of the research line the candidate intends to develop.

1. Data Science

- a. Statistical Learning and Data Science
- b. Biostatistics
- c. Computational Statistics
- d. Time Series, Wavelets, and High-Dimensional Data

2. Statistics

- a. Sampling
- b. Survival Analysis
- c. Multivariate Analysis and Copulas
- d. Bayesian Inference
- e. Generalized Linear Models and Mixed Models
- f. Statistical Theory
- q. Spatial Statistics

The applicant selection process will be regulated by Brazilian constitutional principles, notably that of impersonality, as well as by the provisions of the Statute and General Regulations of the University of Sao Paulo and the Regulations of IME/USP.

The official announcement of this call in Portuguese is available at https://uspdigital.usp.br/gr/admissao.

Applications must be uploaded at this website and will be accepted only during the following period: from July 14, 2025, at 9 a.m. to September 11, 2025, at 5 p.m. (GMT -3).

Qualified applicants will be notified of the selection process schedule at a later date.

Application for Equivalence of the Doctor's Degree

The candidates for the position of Doctor Professor, at the time of application, must present the proof that he or she holds a doctor's degree granted by USP, recognized by USP or valid nationally (Art. 133, item II of USP's General Regulations).

If you have obtained your PhD abroad:

Prior to registration for the application and with enough time for processing the paperwork, you must: either request the "equivalence of the doctor's title" or the "revalidation of the doctor's degree". PLEASE READ CAREFULLY ABOUT THE MEANING OF THESE CATEGORIES.

The title for "Equivalence of the title of doctor" will be valid exclusively within the scope of USP, for applications within the USP https://www.prpg.usp.br/en/enrolling-at-usp/diploma-accreditation-for-usp

Documentations required to request Equivalence of the Title of Doctor at the Graduate Program include:

- 1 Letter requesting the equivalence of a Doctor's degree;
- 2 Copy of doctoral transcript;

(Note: if you have not attended courses during the Doctorate, you must attach document from the institution stating that);

- 3 Copy of the doctoral diploma;
- 4 Copy of the thesis;
- 5 Copy of the passport;

Please send all the documents above to posmae@ime.usp.br

Request for

Revalidation of the Doctor's Title

The "Diploma Revalidation" will provide you the national validity of the title. The request must be made at the General Secretariat of USP. Information: http://www.usp.br/secretaria/?p=1949.