



Edital nº ATAc-IAG/027/2022

**CALL FOR ONE FACULTY POSITION IN THE DEPARTAMENTO DE CIÊNCIAS ATMOSFÉRICAS OF THE INSTITUTO DE ASTRONOMIA, GEOFÍSICA E CIÊNCIAS ATMOSFÉRICAS DA UNIVERSIDADE DE SÃO PAULO, BRAZIL**

The Dean of the Instituto de Astronomia, Geofísica e Ciências Atmosféricas from Universidade de São Paulo (IAG/USP), São Paulo, Brazil, invites applications for tenure track position. The call will be open for a period of 60 (sixty) days, from August, 1<sup>st</sup>, 2022 at 8:00 AM (UTC -3, Brasilia time) up to 5:00 PM on September, 30<sup>th</sup>, 2022. This position nº 1007475 comprises full-time dedication to research and teaching, level MS-3, RDIDP and the entry-level annual salary (MS3 level) is R\$ 180.322,87 plus benefits, relative to March 2022 non-negotiable, at the Departamento de Ciências Atmosféricas in the field of “Atmospheric Aerosols and Greenhouse Gases”, under the terms of art. 125, paragraph 1, of the General Rules of USP. The following is the detailed description of the program for the examinations:

**ACA0336 – Environmental Meteorology**

Basic concepts on air pollution and atmospheric chemistry. Biogeochemical cycles. Atmospheric aerosol and particulate matter physico-chemistry characteristics. Greenhouse gases: carbon cycle, sources and sinks, measurement methods. Pollutant dispersion models: Lagrangian and Eulerian theories. Statistical and isotopes multivariate methods for air pollution source identification. Urban photochemistry models. Pollutant removal processes and residence time. Special topics in climate change. Examples of atmospheric impact studies.

**ACA0410 – Introduction to Atmospheric Chemistry**

Global climate change: stratospheric ozone and the ozone hole. Greenhouse gases and global warming. Chemical composition of the atmosphere. Air pollution and atmospheric pollutants. Assessment of factors affecting air pollution. Effects of air pollution: local, regional and global scales. Biogeochemical cycles: water, carbon, sulfur, nitrogen. Removal processes: dry and wet deposition. Atmospheric aerosols: physicochemical properties. Acid rain: historical aspects and the chemical composition of rainwater. Photochemical smog: tropospheric ozone and atmospheric oxidants.

**ACA0446 – Numerical Methods for Weather Forecasting**

Introduction: weather forecasting as a mathematical problem, physical principles, the need for parameterization of physical processes and problems associated with the definition of the initial and boundary conditions. Primitive equations. Formulation of the forecasting problem in different coordinate systems and approximations. Fundamental numerical methods. Application of numerical methods to the advection, diffusion and Laplace equations. Impact of the numerical methods in determining the properties of gravity and Rossby waves. Fundamentals of objective analysis and the initial condition problem in numerical weather forecasting models. Construction of simplified models and the use of available mesoscale models.



The public competition will be governed by Brazilian constitutional principles, notably that of impersonality, as well as by the provisions of the Statute and the General Regulations of the Universidade de São Paulo and the Regulations of IAG/USP.

1. Applications must be submitted exclusively via the website <https://uspdigital.usp.br/gr/admissao> in the period indicated above, and the candidate must submit an application letter addressed to the Director of IAG/USP, containing personal data and area of knowledge (specialty) of the Department he/she is applying, accompanied by the following documents:

I) Detailed Curriculum Vitae (memorial) outlining his/her experience, list of published papers, academic activities, and any complementary information that enables assessing the merits of the applicant in the specific field of this announcement, and associated documents supporting the information provided (the registration system will request 2 digital files: memorial and supporting documents). A detailed memorial is the presentation of a reflexive analysis about the academic formation, professional experiences, publications and other information concerning the academic and professional life, indicating motivations and meanings;

II) proof that he/she holds a PhD degree awarded by USP, recognized by it or of validity in Brazil;

III) For Brazilian male applicants, proof of discharge from military service;

IV) For Brazilian applicants, copy of voter identification card;

V) For Brazilian applicants, Electoral Acquittance Certificate or Detailed Certificate issued by the Electoral Court less than 30 days from the beginning of the application period;

VI) certificate of vaccination against Covid-19 (at least two doses or only one if from Jansen) and eventual booster doses.

VII) Identity document, in the case of foreign applicants, RNM/RNE (or request protocol) or passport.

VIII) Research proposal, limited to 20 double spaced pages, written in Portuguese or English.

§ 1º – Supporting documents of the memorial referred to, in item I, such as models, works of art or other materials that cannot be digitized, shall be presented until the last working day preceding the beginning of the public competition.

§ 2º - Links to Dropbox, Google Drive or any other website whose content can be altered by the applicant will not be accepted as supporting documents.

§ 3º - For the purposes of item II), defense minutes without homologation information will not be accepted when the PhD granting title depends on this procedure within the issuing Educational Institution. The applicant must be aware that, in this case, the absence of homologation proof will imply the rejection of the application.

§ 4º - Applicants already working at USP as professors are exempted from the requirements III and IV, provided that they have complied with them at the time of their initial contract.



§ 5º - Foreign applicants are exempted from the requirements III, IV and V, and must prove that they are in regular situation in Brazil.

§ 6º – An appointed foreign applicant may only take office if holding a temporary or permanent visa, which grants to the holder permission to exercise remunerated activities in Brazil.

§ 7º - Upon registration, applicants with special needs must submit a request for the necessary conditions being provided during the examinations.

§ 8º - Concerning requirement of item VI, with the exception of the provisions of § 9º, the following will be accepted as proof:

1. Physical certificate of vaccination issued where the candidate received the vaccine;
2. National certificate of vaccination against Covid-19, available in the Conecte SUS Cidadão app or webpage (<https://conectesus.saude.gov.br/home>);
3. Digital certificate of vaccination against Covid-19, available at Poupatempo Digital;
4. Certificate of vaccination or passport issued by a public system, whose authenticity can be tracked.

§ 9º - Exceptionally, if the candidate is exempted from receiving vaccines against Covid-19 for medical reasons, he/she must present documentation capable of proving the exemption. The documentation will be analyzed by the competent bodies of the University, and the application will be rejected if the documentation does not provide enough information for the intended waiver.

§ 10 - It is the sole responsibility of the applicant to verify the order of the uploaded files at <https://uspdigital.usp.br/gr/admissao>. Uploading files in different order will imply rejection of the application.

§ 11 - It is the sole responsibility of the applicant to verify the integrity (front and back) and readability of the uploaded files, being the candidate aware that, if he/she does not remedy any irregularity in uploading an incomplete or illegible document during the registration period, the application will be rejected.

§ 12 – By no means, extra documents will be accepted once the period of application is closed.

§ 13 - Upon registration, foreign applicants may submit a written request to take the application exams in English. The contents of the examinations conducted in English or in Portuguese will be identical.

2. The Board of Academic Affairs of IAG/USP will judge and announce the formal acceptance of the applications.

Sole paragraph: The examination of the candidates will take place within 30 to 120 days, after the formal acceptance of the applications (counting from the date of publication in the Official State Gazette).

3. The examination of the candidates will be carried out according to objective criteria, in two phases, and graded by each member of the Examining Committee:



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

2<sup>nd</sup> phase - I) Analysis and public examination of the memorial (weight 5);

II) Teaching exam (weight 2);

III) Public defense of the research proposal (weight 2).

§ 1º - The call for candidates to take the exams will be published in the Official State Gazette.

§ 2º - Candidates who present themselves after the scheduled time will not be allowed to take the exams.

§ 3º - According to article 5º from Portaria GR 7687/2021, it is mandatory to present the certificate of vaccination against Covid-19 in all activities developed at the University campus, being eliminated all candidates not attending this regulation.

### **I - First phase: Written Exam - Eliminary**

4. The written exam, which will deal with a matter of general and doctrinal order, will be carried out in accordance with the provisions of art. 139 and its single paragraph of the General Regulations of USP.

I) The examining committee will prepare and announce a list of ten topics, based on the program detailed above, 24 (twenty-four) hours before the drawing of the topic. Candidates are free to carry out other activities during this period;

II) Immediately after becoming aware of the examination topics, candidates may ask to replace one or more topics they understand not belonging to the program. The Examining Committee will decide on the claim and if necessary, substitute the topics under objection;

III) after drawing the topic, the non-extendable period of five hours of the exam begins;

IV) In the interval of sixty minutes, after the drawing, it will be allowed to consult books, periodicals and other bibliographic documents;

V) the notes made during the consultation period may be used during the course of the exam, and should be written on initialed papers by the examining committee and attached to the final text;

VI) the written exam, which will be read in public session by the candidate, will be copied and delivered to the members of the examining committee, when the session is opened;

VII) each exam will be evaluated, individually, by the members of the examining committee;

VIII) candidates who obtain, from the majority of the members of the examining committee, a minimum score of seven will be considered qualified for the 2nd phase;

IX) the examining committee will present, in public session, the scores received by the candidates.

5. Only the successful candidates in the first phase will participate in the second phase.



## **II - Second phase: PUBLIC EXAMINATION OF THE MEMORIAL, TEACHING EXAM AND PUBLIC EXAMINATION OF THE RESEARCH PROPOSAL**

### **Public Examination of the Memorial**

6. The evaluation of the memorial, expressed by a global grade, including argument and evaluation, should reflect the merit of the candidate.

Sole paragraph – the grading of the memorial must consider:

- I) the scientific, literary, philosophical or artistic production;
- II) university teaching activities;
- III) services to the community;
- IV) professional or other activities, if applicable;
- V) degrees and other university honors.

### **Teaching Exam**

7. The teaching exam will be public, with a minimum duration of forty and maximum of sixty minutes lecture.

- I) the examining committee, based on the program detailed above, will organize a list of ten topics, which the candidates will know immediately before the drawing of the topic;
- II) Immediately after becoming aware of the examination topics, candidates may ask to replace one or more topics they understand not belonging to the program. The Examining Committee will decide on the claim and if necessary, substitute the topics under objection;
- III) the drawing of the topic will be done twenty-four hours before the teaching exam, and the candidate is waived during this period;
- IV) the candidate can use the teaching material that he/she deems necessary;
- V) if necessary, the candidates will be divided into groups of maximum three, observing the order of registration, for the purpose of drawing the topics and conducting the exam.
- VI) When the 60<sup>th</sup> minute of the exam is reached, the examining committee will interrupt the candidate.
- VII) If the lecture finishes before reaching 40 minutes, the examining committee will assess a zero score to the candidate in the teaching exam.

### **Public Defense of the Research Proposal**

8. The public defense of the research project aims to assess the scientific knowledge and previous experience on the topic proposed by the candidate, the clarity of the candidate's answers to the examining committee questions; the adequacy of the proposal to the aforementioned area of knowledge, in addition to its originality and feasibility.

I - for the public defense of the research proposal, the candidate must make a presentation of, at most, 15 (fifteen) minutes of the proposal;



II - the defense will be carried out in the form of a dialogue, not to exceed 60 (sixty) minutes for all examiners and 60 (sixty) minutes for the candidate.

### **Second Phase Trial**

9. At the end of the assessment of the exams, each candidate will receive from each examiner a final grade, which will be the weighted average of the grades awarded by him/her in both phases, observing the weights set out in item 3.

10. Exam grades may range from zero to ten to the first decimal place.

11. The grade obtained by the candidate approved in the written test will compose the final average of the second phase, weighing 1.

12. The result of the contest will be proclaimed by the examining committee immediately after its conclusion, in public session.

13. To be eligible, candidates must achieve a minimum final grade of seven from the majority of examiners.

14. Each examiner will nominate the candidate he/she graded highest.

15. The candidate receiving most nominations by the Examining Committee will be indicated for appointment.

16. The effective appointment to the position depends on a medical examination conducted by the State's Department of Medical Skills (DPME), pursuant to article 47, VI, of Law No.10.261/68.

17. The appointment of the teacher approved in the contest, as well as the other resulting measures, will be ruled by the terms of Resolution 7271 of 2016.

18. The teacher in RDIDP must maintain an exclusive employment relationship with USP, under the terms of article 197 of the General Rules of USP.

19. The public competition will be valid immediately and will be proposed for appointment only to the candidate indicated for the position announced by this call.

20. The candidate will be summoned for tenure by the Official State Gazette.

21. Further information, as well as the rules pertinent to the public competition, are available to those interested in the Academic Affairs Assistance of the IAG/USP, located at Rua do Matão, 1226, 304, Cidade Universitária / São Paulo, from 9:00 AM to 12:00 PM and from 2:00 PM to 4:00 PM, or by e-mail: [atac-iag@usp.br](mailto:atac-iag@usp.br).

22. Information about the lines of research developed in the Departamento de Ciências Atmosféricas are available on the Internet, at the following electronic address: <http://www.iag.usp.br/atmosfericas>.

Note: For the production of legal effects of the present document in the Federative Republic of Brazil an attached version issued in Portuguese is required. In the event of conflict between English and Portuguese versions, the Portuguese version will prevail.