

Postdoctoral position in plant population genomics

A postdoctoral position in plant population genomics is available at the University of São Paulo, São Paulo Brazil.

1. General information

1.1. Grant: Sapindales: phylogeny and diversification in the neotropical region (FAPESP: 14/18002-2)

1.2. Project sub-discipline: Plant population genomics

1.3. Principal investigators: José Rubens Pirani and Pedro Dias

1.4. Supervisor for this project: Pedro Dias

1.5. Institution/Department: University of São Paulo/ School of Arts, Sciences and Humanities

1.6. Fellowship: R\$ 7.174,80 per month (US\$ 2,116.27 – current exchange rate. Also, there are no taxes on fellowships in Brazil)

1.7. Duration: six months (the fellowship can be renewed for additional 12 months)

1.8. Research contingency funds: intended for use in activities developed by the fellowship holder, strictly related to the fellowship research project, during the term of the fellowship. The additional funds are equivalent to 15 per cent of the annual value of the fellowship

1.9. Deadline for application: June 10, 2018

1.10. Published: April 11, 2018

2. Project description: “Population genomics of *Pilocarpus* spp. (Rutaceae)”

The genus *Pilocarpus* Vahl has 17 species and its distribution is restricted to the Neotropics. Economically, it is noteworthy by being the only natural source of the alkaloid pilocarpine, which is the key element commercialised by the pharmaceutical industry for glaucoma treatment. This project will focus on the four closely related, commercially exploited, and pilocarpine-producing species: *P. alatus*, *P. jaborandi*, *P. microphyllus* and *P. trachylophus*. This project will use Oxford Nanopore and Illumina sequencing technologies.

3. Tasks

The position is part of a research project, supported by FAPESP (2014/18002-2) at University of São Paulo, on the phylogeny and diversification of Sapindales in the Neotropical region. The work includes DNA labwork (including library preparation and optimization), use of standard software for quality control, pipelines and user-developed scripts (in both R and Perl), and population genomic analyses. The fellow will also help with lectures and supervision of student projects, article- and grant writing. The labwork will be conducted at São Paulo and Piracicaba campi of the University of São Paulo.

4. Qualifications

To be qualified for the postdoctoral position the applicant should have:

4.1. PhD degree in Genomics/Genetics/Bioinformatics/Phylogenetics/Evolutionary Biology or similar direction of studies. The PhD degree should have been received no more than two years before the deadline for applications.

4.2. Publication record in disciplines relevant to the thematic grant's objectives.

4.3. Strong experience with molecular biology techniques and DNA markers used in plant population genetics.

4.4. Fluent English and availability to spend sometime abroad (partner labs).

4.5. Experience with Oxford Nanopore library preparation; handling genomic data (previous

training in genome assembly and annotation will be a plus) and software (e.g., CANU, FastQC, IGV, SPAdes, STACKS); using user-developed scripts (basic programming skills in, e.g., Perl, Python or R will be a plus), and basic shell commands (**mandatory**).

4.6. Experience with botanical fieldwork.

4.7. Availability to initiate working on the project as soon as FAPESP finishes documentation checking and approves the application.

* Retired candidates are not allowed.

5. Criteria for selection

Among qualified applicants, selection will be made according to scientific merits, quality of the PhD dissertation, personal skills, the applicant's documented knowledge in subjects of relevance for the research area, ability to master English language (both spoken and written), analytical ability, creativity, initiative, independence, teamwork, and will to collaborate. Previous knowledge of relevant theory and methods (next-generation sequencing, genome assembly, and phylo/biogeographic analyses) weigh heavily. Experience with botanical fieldwork and shell commands are considered mandatory.

Omissions in this announcement will be decided by the PIs of the FAPESP grant, safeguarding the rules established by FAPESP (<http://www.fapesp.br/en/5427>).

6. More information

Please contact Pedro Dias (pdias@usp.br) or José R. Pirani (pirani@usp.br)

7. To be included in the application (pdf format only)

7.1. Letter of intent, personal presentation and your reasons for applying (maximum of 500 words)

7.2. Curriculum vitae with publication list (please include DOI)

7.3. DOI or pdf copy of three selected publications

7.4. Copy of PhD dissertation (or link to the file)

7.5. PhD degree certificate or date of scheduled defense (until June 10, 2018)

7.6. Name and e-mail address of two persons who may act as references

Please send your application, with “FAPESP 2014/18002-2 – PD5” in the subject field, to both pdias@usp.br and pirani@usp.br no later than June 10, 2018. Applications will be reviewed on June 11, 2018, but will also be considered after this date until the position is filled. Results will be announced after FAPESP's approval only.