

ANNOUNCEMENT OF A RESEARCH GRANT (BI)

Reference: IIA – BII-1- Transform-Melhoramento Genético

Competition is open for the award of a **Research initiation scholarship (BII)**, for a student enrolled on a higher professional technical course, a bachelor's degree, or an integrated master's degree in the specific scientific area, with a view to beginning his/her scientific training through integration in R&D projects. This grant is held within the scope of the project “**Transform-WP1-P1.1 WP1-P1.1 Genetic improvement and forestry materials for the reproduction of native species PRR**”, of the Polytechnic Institute of Coimbra, financed by **PRR12**, through the financing line, **Promotion of Sustainable Bioeconomy**, Regulatory Framework **PRR12 Promotion and Valorization of Natural Resin**, under the following conditions:

The grant (BIC) will be aimed at the implementation and development of the following activities:

1. Support on In vitro establishment of the selected plant material, subsequent multiplication and ex vitro rooting;
2. Support on collection of plant material in the nursery and in tests installed in the field, for subsequent DNA extraction and validation of selected clones, using specific microsatellites and the use of qPCR;
3. Support on In vitro multiplication of cultures of selected clones; and in the preparation and sterilization of culture media;
4. Support during monitoring of tests installed in the field and in the installation of new tests in complete and randomized blocks;
5. Support on harvesting fruit from selected strawberry tree trees in the seed-producing orchard, certified in the Qualified category; fruit processing, seed extraction and subsequent conservation;
6. Support in the forest nursery for seed germination, plant production, acclimatization of micropropagated plants and cultural treatments;

Generic scientific area: *Bioengineering, Biotechnology and Biochemistry*

Specific scientific area: *Biotechnology*

Admission requirements:

According to Article 3 of the Research Fellowship Regulation of the Polytechnic Institute of Coimbra approved through Dispatch No. 5963/2020, published in “Diário da República”, 2nd serie of June 1, 2020, candidates must:

- **Prove to be a student enrolled: in a professional higher technical course, a bachelor's degree or a master's degree integrated in the specific scientific area** (aiming at the beginning of their scientific training through the integration in R&D projects); **or, being licensed, in non-academic degree courses integrated in the educational project of a higher education institution.**

- **Have experience in the Functional Contents of the Operation and Domain in the application of techniques and protocols in the laboratory, in the nursery and in the field, previously mentioned in activities to be implemented and developed.**

Work plan:



The work plan will be to develop:

- In the field: Support on collection of plant material from selected plants, for in vitro establishment; Support on collection of plant material from clones installed in tests for later, in the laboratory, to proceed with DNA extraction and genetic validation; Support on harvesting fruit in the seed-producing orchard; Support on monitoring of tests installed in different edaphoclimatic conditions; Installation of new tests in complete and randomized blocks; Support on harvesting of carpophores from mycorrhizal fungi, particularly under conditions of environmental stress, for in vitro establishment and subsequent plants inoculation;
- Support in the micropropagation laboratory: in vitro establishment of selected plants and mycorrhizal fungi; later, in vitro multiplication of cultures of clones and strains of mycorrhizal fungi; preparation and sterilization of culture media;
- In Valoren's laboratory: support for preparation of plant material (roots and leaves); DNA extraction; qPCR reactions, with specific molecular markers (mycorrhizal fungi or SSR / plants); when necessary, runs on agarose gel;
- In the laboratory: support for fruit processing, seed extraction and screening; seed conservation in cold; if convenient, implement of pre-germination treatments to break dormancy;
- In the forest nursery: support for sowing and subsequent monitoring of the plants; support on acclimatization of micropropagated plants, plant mycorrhization and nursery culture operations.

Objectives to be accomplished by the candidate:

1. Support In vitro establishment of the selected plant material, subsequent multiplication and ex vitro rooting;
2. Support on collection of plant material in the nursery and in tests installed in the field, to validate the genetic conformity of the clones, using specific microsatellites and the use of qPCR;
3. Support on In vitro multiplication of cultures of selected clones and mycorrhizal fungi and inherent operations;
4. Support for monitoring of tests installed in the field;
5. Support on fruit harvest from trees installed in the seed-producing orchard, certified in the Qualified category; fruit processing, seed extraction and subsequent conservation;
6. Support on production of plants from the parents installed in the orchard, for the installation of progeny tests in complete and randomized blocks;

Duration of the grant:

The grant will last for 6 months, under exclusivity, according to the Research Grant Regulation of the Polytechnic Institute of Coimbra, through Dispatch No. 5963/2020, published in “*Diário da República*”, 2nd serie of June 1, 2020, scheduled to begin December, 2023.

Monthly Maintenance Allowance:

The Monthly Maintenance Allowance corresponds to the basic value of **541,12 euros per month**, according to the table of grants of FCT, I.P. in the country (Appendix I - Table of monthly maintenance allowances for the FCT I.P. Research Grant Regulation): <http://www.fct.pt/apoios/bolsas/valores>. with the payment being made monthly by bank transfer.

To this amount is added the Voluntary Social Insurance corresponding to the 1st tier, if the applicant chooses to register, and Personal Accident Insurance.

Host institution and scientific supervision:

The work will be carried out at the ESAC and in the field, under the scientific supervision of Maria Filomena Figueiredo Nazaré Gomes.

Evaluation criteria:

The evaluation of the applications will focus on the merit of the candidate, by applying the following parameters according to the following formula:

$$\text{Assigned note (from 0 to 100)} = (0,25 * C1 + 0,25 * C2 + 0,25 * C3 + 0,25 * C4) * F1 * F2 * F3$$

C1 – Experience in the in vitro establishment and subsequent propagation of woody species and mycelium of mycorrhizal fungi;

C2 - Experience in processing fruit for seed extraction, in the production of plants in nurseries and in the inherent cultural operations;

C3 - Experience in genetic conformity analysis (DNA extraction and subsequent analysis by molecular genetic techniques, using qPCR);

C4 - Experience in monitoring tests installed in the field, in the installation of progeny tests in complete and randomized blocks and in the statistical treatment of the results.

Weighting factors F1, F2 and F3 are defined as follows:

F1 - Area of Study / Training:

F1 = 1,0 Field of Study / Training in the specific scientific area: Biotechnology.

F1 = 0,5 Area of Study / Training in the general scientific area: Forestry Sciences

F1 = 0,1 Area of Study / Training in other scientific area

F2 - Experience in the application of the techniques and protocols of the activities to be carried out and indicated above:

F2 = 1.0 for work experience of more than 24 months

F2 = 0.5 for work experience longer than 12 months

F2 = 0.4 for curricular internship experience equal or superior to 6 months

F2 = 0.1 for training within the curricular area.

F3 - Driver's license and knowledge of the Portuguese language:

F3 = 1.0 with driver's license and knowledge of Portuguese language;

F3 = 0.3 with knowledge of Portuguese, but no driving license;

F3 = 0.1 with driving license and no knowledge of Portuguese.

Composition of the Jury:

The Selection Panel is composed by the following elements: President: Maria Filomena Figueiredo Nazaré Gomes; Effective members: Isabel Maria Nunes da Rosa Dias Duarte; Maria Manuel Balseiro Vidal. Substitute members: Teresa Maria Pinto Coelho Amado Vasconcelos and Joaquim Manuel Sande Silva.

Documents to be submitted:

Applications should include the following documents:

- Duly completed application form, available on the website dedicated to this competition procedure at https://www.ipc.pt/bupc/concursos/form/concursos_bolseiros, duly completed;
- Elements of the National Identity Card/Citizen Card/Passport/Visa/Title of Residence; Tax Identification Number (NIF)
- Documents proving that the candidate meets the conditions defined in the admission requirements, namely, certificate of enrolment or registration in a professional higher technical course or in a bachelor's degree or in an integrated master's degree in the specific scientific area; or, being licenced, in non-academic degree courses integrated in the educational project of a higher education institution.
- *Curriculum Vitae* of the candidate, in Portuguese or in English.
- Letter of reference or recommendation, including the contact details of the author(s) of the recommendation.

The above-mentioned documents, to be submitted as an application, must be submitted by the deadline established for this purpose in the present opening notice.

Applications from holders of foreign academic degrees will only be considered with proof of recognition of a foreign degree in Portugal

Deadline for receipt of applications:

The call is open during 10 working days from 13/11/2023 to 24/11/2023.

Candidates must access and register on the website https://www.ipc.pt/bupc/concursos/form/concursos_bolseiros to submit the application, selecting the procedure for which they intend to apply.

Applications must be delivered exclusively in digital format, in portable document format (pdf), with the exception of documents whose delivery is scheduled in other digital formats.

Application instructions are completed by filling in the sections available at the aforementioned email address.

When formalizing the application, if it contains a classified document that reveals commercial or industrial secrets, or secrets relating to literary, artistic or scientific property, the candidate must expressly indicate such reservation, under penalty of the work in question being freely accessed by any one of the other candidates, in consultation with the process.

When submitting the application, the candidate must provide the data strictly necessary for the purpose, under the terms of this public notice, and must hide personal data that may exist in the documentation submitted, otherwise these data may be freely accessed by any of the other candidates, in the process query.

Applicable legislation and regulations:

Research Fellowship Holder Statutes, approved by Law No. 40/2004, of August 18 (Statute of the Scientific Research Fellow) amended and republished by Decree-Law No. 202/2012, of August 27, updated by: Decree-Law No. 233/2012, Law No. 12/2013, Decree-Law No. 89/2013, and Decree-Law No. 123/2019; the Regulation of

Grants and Research of the Foundation for Science and Technology in force (Regulation No. 950/2019, of December 16, amended by Regulation No. 643/2021 of July 14) and the Research Grantee Regulation of the Polytechnic Institute of Coimbra, approved through dispatch No. 5963/2020, published in “Diário da República”, 2nd serie of June 1, 2020.

Communication of results:

Results of the evaluation will be published no later than 90 working days after the deadline for submission of applications.

Results will be listed by ordered alphabetically, posted in the showcase allocated to ESAC Human Resources, in the building B of Coimbra Polytechnic Agriculture School, all candidates are notified, for the purposes of prior hearing of interested parties, by e-mail.

If the result is unfavorable to the granting of the requested grant, the candidates have a period of 10 working days, after the disclosure of results, to give their opinion, wanting, in the pre-hearing of interested parties, in accordance with the provisions of the Code of Administrative Procedure.

Where the number of interested parties to be heard is so high that the prior hearing of interested parties becomes impractical, it is replaced by public consultation, carried out in accordance with the terms and within the time limits set out in Article 37(2) of Decree-Law No. 63/2019 of May 16.

The final decision shall be taken no later than 60 working days after the conclusion of the prior hearing of interested parties or public consultation.

The final decision can be contested, having 15 working days for this purpose, by sending to the President of the Jury the corresponding claim or appeal to the President of the IPC within 30 working days, both after notification.

For more information contact: the President of the Jury, by e-mail: fgomes@esac.pt.

The following annexes contain the models of the grant contract and the final reports to be drawn up by the grantee and the scientific advisor in accordance with the IPC Regulation (DR, No. 106 of 1 June 2020).

Coimbra, novembro, 2023

ATTACHMENTS

ANNEX I - Contrato de bolsa de investigação

Entre as partes abaixo designadas:

1.º Instituto Politécnico de Coimbra (IPC), com sede na Rua da Misericórdia, Lagar dos Cortiços — S. Martinho do Bispo, 3045-093 Coimbra, com o número de identificação de pessoa coletiva 600027350, representada neste ato por ..., na qualidade de Presidente, adiante designada por primeiro outorgante; e

2.º ... (nome do bolseiro), com o ... (documento de identificação) n.º ..., válido até ..., contribuinte n.º ..., beneficiário da Segurança Social n.º ... (se aplicável), residente em ..., adiante designado por segundo outorgante;

É celebrado de boa-fé, e reciprocamente aceite, o presente contrato de bolsa de investigação, ao abrigo do Regulamento de Bolseiro de Investigação do IPC, que se rege pelas cláusulas seguintes:

Cláusula 1.ª

O primeiro outorgante compromete-se a conceder ao segundo outorgante uma bolsa de investigação de (BII, BI e BPD) com a referência... pelo período de... meses, eventualmente renovável nos termos previsto no Regulamento de Bolseiro de Investigação do IPC.

Cláusula 2.ª

O segundo outorgante obriga-se a realizar o plano de atividades, conforme descrito no processo de candidatura, a partir da data de início nele referida e em regime de dedicação exclusiva, nos termos do artigo 19.º do Regulamento de Bolseiro de Investigação do IPC.

Cláusula 3.ª

O segundo outorgante realiza os trabalhos na ... (UO/UOI), que funciona como entidade acolhedora/entidade financiadora, tendo como orientador (a) científico o Doutor (a) ...

Cláusula 4.ª

O montante da bolsa é de... € mensais, a pagar pelo 1.º outorgante por transferência bancária.

Cláusula 5.ª

O primeiro outorgante poderá rescindir o presente contrato nos casos a seguir indicados:

- a) Incumprimento grave e reiterado dos deveres do segundo outorgante, por causa que lhe seja imputável, designadamente não atingir os objetivos estabelecidos no plano de atividades aprovado;
- b) Quando se verificar que o bolseiro prestou falsas declarações.

Cláusula 6.ª

Sem prejuízo do disposto na cláusula anterior, este contrato cessa automaticamente com a conclusão do plano de atividades, com o decurso do prazo pelo qual a bolsa é atribuída, com a revogação por mútuo acordo ou alteração das circunstâncias, com a constituição de relação jurídico-laboral com a entidade acolhedora.

Cláusula 7.ª

O bolseiro tem de apresentar até 60 dias após o termo da bolsa um relatório final das atividades desenvolvidas, incluindo as eventuais comunicações e publicações resultantes da atividade como bolseiro.

Cláusula 8.ª

É subsidiariamente aplicável o Estatuto de Bolsheiro de Investigação, aprovado pela Lei n.º 40/2004, de 18 de agosto, na sua atual redação, e o Regulamento de Bolsas de Investigação do IPC.

Cláusula 9.ª

Convencionou-se, por acordo entre as partes, que em caso de necessidade e para dirimir todas as questões emergentes do presente contrato será competente o Tribunal da Comarca de Coimbra, com expressa renúncia a qualquer outro.

Cláusula 10.ª

Qualquer alteração a introduzir no contrato no decurso da sua execução ou prorrogação do mesmo será objeto de acordo prévio.

Cláusula 11.ª

As partes outorgantes declaram estar de acordo com o clausulado neste contrato, que é feito em duplicado, todas

as cópias valendo como originais, ficando um exemplar na posse de cada um dos outorgantes.

Coimbra, ... de ... de ...

O Primeiro Outorgante, ...

O Segundo Outorgante, ...

ANNEX II - Final report to be prepared by the grantee

Exmo. Sr. Presidente do Politécnico de Coimbra

... (nome completo do Bolseiro), com o ... (documento de identificação) n.o ..., vem, de acordo com o artigo 25.o do Regulamento de Bolseiro de Investigação do Instituto Politécnico de Coimbra, apresentar o seu Relatório Final referente à Bolsa de ... (identificação do tipo de Bolsa), na área de ... (identificação da área da Bolsa), cujos trabalhos foram desenvolvidos no (a) ... (entidade acolhedora onde foram desenvolvidos os trabalhos), e tendo sido coordenado pelo Ex. Prof. (a) doutor (a) ...

(Neste documento serão focados os aspetos a seguir referidos)

- 1 — Apresentação do objeto da Bolsa e dos respetivos objetivos.
- 2 — Identificação cronológica dos trabalhos desenvolvidos no âmbito da Bolsa supra referenciada.
- 3 — Apresentação dos resultados alcançados.
- 4 — Autoavaliação do Bolseiro.

Anexos a apresentar: Comunicações e publicações resultantes da atividade como bolseiro.

Local, ... de ... de ...,

Assinatura do Bolseiro

ANNEX III - Final report to be prepared by the Scientific Advisor

Ex.mos (as) Senhores (as)

No âmbito da Bolsa de ... (identificação do tipo de Bolsa), na área de (identificação da área da Bolsa), desenvolvida pelo Bolseiro... (identificação do Bolseiro), venho, de acordo com o artigo 25.º do Regulamento de Bolseiro de Investigação do Politécnico de Coimbra, apresentar o devido Relatório Final de Avaliação.

(Neste documento serão focados os aspetos a seguir referidos)

- 1 — Análise crítica do trabalho desenvolvido pelo Bolseiro.
- 2 — Avaliação final do trabalho desenvolvido, com referência expressa aos indicadores relativos aos critérios de avaliação definidos no artigo 17.o do Regulamento.

Local, ... de ... de ...,

Assinatura do Orientador Científico