

**ANNOUNCEMENT OF A RESEARCH GRANT (BI)**  
**Reference: IIA – LIC-1- Transform-Genetic Improvement**

Competition is open for the award for the award of a **RESEARCH GRANT (BI)** within the scope of the project “**Transform-WP1-P1.1 WP1-P1.1. Genetic improvement and forest material for reproduction of autochthonous species**”, by the Polytechnic Institute of Coimbra, funded by the **PRR**, through the funding line, **DGADR - IFAP - INVESTIMENTO RE-C05-i03 – RESEARCH AND INNOVATION AGENDA FOR THE SUSTAINABILITY OF AGRICULTURE, FOOD AND AGROINDUSTRY (NOTICE No. 01/C05-i01/2021)**.

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

1. In vitro establishment of the selected plant material, subsequent multiplication and ex vitro rooting;
2. 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. In vitro multiplication of cultures of selected clones; and in the preparation and sterilization of culture media;
4. Monitoring of tests installed in the field and in the installation of new tests in complete and randomized blocks;
5. 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;
7. Data collection, statistical treatment, and dissemination of results.

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”, 2<sup>nd</sup> serie of June 1, 2020, candidates must:

- **possess a graduated degree in the field of the specific scientific area: Biotechnology.**
- **prove that they are enrolled in a master's or in an integrated master's degree in the field of Biotechnology or enrolled in non-conferring courses of academic degree 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: Collection of plant material from selected plants, for in vitro establishment; Collection of plant material from clones installed in tests for later, in the laboratory, to proceed with DNA extraction and genetic validation; Harvesting fruit in the seed-producing orchard; Monitoring of tests installed in different edaphoclimatic conditions; Installation of new tests in complete and randomized blocks; Harvesting of carpophores from mycorrhizal fungi, particularly under conditions of environmental stress, for in vitro establishment and subsequent plants inoculation;
- 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: 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: fruit processing, seed extraction and screening; seed conservation in cold; if convenient, implement of pre-germination treatments to break dormancy;
- In the forest nursery: sowing and subsequent monitoring of the plants; acclimatization of micropropagated plants; plant mycorrhization; and nursery culture operations;
- In the office: analysis and statistical treatment of results; and dissemination of results

**Objectives to be accomplished by the candidate:**

1. In vitro establishment of the selected plant material, subsequent multiplication and ex vitro rooting;
2. 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. In vitro multiplication of cultures of selected clones and mycorrhizal fungi and inherent operations;
4. Monitoring of tests installed in the field;
5. Fruit harvest from trees installed in the seed-producing orchard, certified in the Qualified category; fruit processing, seed extraction and subsequent conservation;
6. Production of plants from the parents installed in the orchard, for the installation of progeny tests in complete and randomized blocks;
7. Data collection, statistical treatment, and dissemination of results.

**Duration of the grant:**

The grant, under exclusivity, will last for 6 months and is renewable for up to 2 years, according to the Research Grant Regulation of the Polytechnic Institute of Coimbra, through Dispatch No. 5963/2020, published in "*Diário da República*", 2<sup>nd</sup> serie of June 1, 2020, scheduled to begin on October 2, 2023.

**Monthly Maintenance Allowance:**

The Monthly Maintenance Allowance corresponds to the basic value of **930.98 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 1<sup>st</sup> 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:

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: Joaquim Manuel Sande Silva and Teresa Maria Pinto Coelho Amado Vasconcelos.

**Documents to be submitted:**

Applications should include the following documents:

- 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, 1) certificate of qualifications and 2) certificate of enrolment in masters in the field of Biotechnology or in courses not leading to an academic degree integrated in the educational project from an institution of higher education.
- *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.

**Deadline for receipt of applications:**

The call is open during 10 working days from 03/08/2023 a 17/08/2023 (23:00 – Europe/London). Applications must be sent exclusively by e-mail to [bolsas.investig@ipc.pt](mailto:bolsas.investig@ipc.pt), with the subject “**Reference: IIA – LIC-1- Transform-Genetic Improvement**”.

**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”, 2<sup>nd</sup> 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](mailto: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, July 10, 2023