



2021 Call – Applications for Doctoral Scholarships in the framework of the Proton Therapy PhD Grants Program

Terms of the Call – 3rd Edition

FCT and the ProtoTera Association agreed to promote a program of PhD grants, under the FCT Regulations for Studentships and Fellowships and the Research Fellowship Holder Statute, in order to constitute a community of PhDs with multidisciplinary training in the areas of medicine, technology and physics that support the installation and operation in Portugal of cancer treatment centers using proton beam therapy.

The following domains will be considered:

- a) Fundamental or applied research in the studies of the effects of high energy radiation on biological systems and materials and, in particular, on studies of radiation on cells and animals;
- b) Development and optimization of relevant technologies for the therapeutic use of particle beams, including accelerators; beams modulated in space, time and intensity; real-time reconstruction systems for the location of the beam in the tumor area; real-time planning and medical imaging;
- c) Diagnosis and treatment of oncological diseases which imply the study of innovative approaches that involve the combination of therapeutic and diagnostic systems, commonly referred to as "theranostics", contributing to a precision and customized medicine;
- d) Research in medical and clinical physics related to proton radiotherapy namely, within the scope of the dependent and independent uncertainties of the dose calculation;
- e) Medical and clinical research related to proton radiation therapy, namely in the referral of patients and in the planning and follow up of treatments;
- f) Study of synergies between immunotherapy and proton therapy and therapies making use of both radioisotopes and proton therapy.

The maximum number of grants to be awarded in the present call will be 5 (five). The granting of the scholarship will depend on the receipt of all required documents and is subject to the availability of FCT funding.

This program is associated to the IDPASC Doctoral Program in Particle Physics, Astrophysics and Cosmology.

1. Grant Recipients

PhD studentships will be granted to applicants that fulfil the requirements to join a study cycle towards a PhD degree and wish to develop research work in the areas of medicine, technology and physics at a Portuguese University and hosted at one of the institutions that integrate the ProtoTera Association or at any national R&D centre **with a protocol previously established with the ProtoTera Association for this PhD studentships program**. These grants will be supervised by a supervisor designed by the host institution and may be co-supervised by researchers from other institutions. In any case it is mandatory that one of the supervisors has a formal link to a Portuguese University granting the academic degree and, in case of mixed grants, one of the co-supervisors must have a link to the foreign host institution.

The grants may be “national” or “mixed” grants, depending on whether the work program is carried out totally or partially at national institutions. **In the case of national grants, it is mandatory to include in the work program a minimum period of a 6-month internship at an internationally renowned institution.** In the case of mixed grants, the period of the work program that takes place in a foreign institution cannot exceed 24 months. When applying for a mixed grant, applicants should specify the starting date and length(s) of the period(s) to be spent abroad, and indicate the foreign institution where the research work will take place.

The duration of the grant is annual, renewable up to a maximum of four years and may not be awarded for periods of less than three consecutive months. Selected applicants will be awarded monthly stipends and supplementary support, which may include tuition fees, relocation costs, travel awards and health insurance, whenever applicable, as detailed in the FCT Regulations. For further information, please consult the following link: <https://www.fct.pt/apoios/bolsas/valores>.

2. Admissibility Requirements

Under the conditions set out in Article 9 and Paragraph 1 of Article 14 of FCT Regulations for Studentships and Fellowships, are eligible as applicants:

- Portuguese citizens, or citizens of other European Union member states;
- third-country citizens;
- stateless persons;
- beneficiaries of refugee status.

To apply for a PhD studentship it is necessary:

- To hold a bachelor’s or master’s degree in the scientific areas defined in the call announcement or in related areas;
- Not to have benefited from a PhD or a PhD in industry studentship directly funded by FCT, regardless of its duration;
- Not to hold a doctoral degree.

In the case of mixed grants, all candidates (Portuguese or foreign) must be able to produce proof of their usual or permanent residence in Portugal at the starting date of the grant, as demonstrated by the following documents:

- o Portuguese applicants: residence certificate, issued by the *junta de freguesia* of their residence area;
- o Citizens of a European Union member-state: EU citizen registration certificate, issued by the town council, or certificate of permanent residence for the EU, issued by the Serviço de Estrangeiros e Fronteiras (Borders and Foreigners Services);
- o Other nationals, stateless persons or refugees: certificate of permanent residence, issued by the Serviço de Estrangeiros e Fronteiras (Borders and Foreigners Services).

In this circumstance, the contracting of the studentship that is conditionally granted depends on the presentation of a valid Portuguese residence permit at the starting date of the grant, under the terms established in Law no. 23/2007, of 4 July, last amended and republished by Law nº. 102/2017, of 28 August.

Non-Portuguese citizen candidates who are not currently living in Portugal may also apply, if the studentship proceeds fully in Portuguese institutions (national grant).

These documents are not required during the application submission and may be presented upon provisional awarding of the grant, during the contracting process. However, these documents must be valid on the starting date of the grant.

3. Period of the Call

The call will be open from **15th October to 10th December 2021, 17:00 (Lisbon time)**.

- 1st Phase: Submission of thesis themes by supervisors – 15th October to 05th November 2021, 17:00 (Lisbon time)
- 2nd Phase: Submission of the applications by students – 08th November to 10th December 2021, 17:00 (Lisbon time)

4. Applications

1st Phase: Submission of thesis themes by supervisors – 15th October to 05th November 2021, 17:00 (Lisbon time)

As stated in the call announcement, R&D centres should have a protocol previously established with the ProtoTera Association. It is also mandatory that one of the supervisors has a formal link to a Portuguese University granting the academic degree, and in case of mixed grants, one of the co-supervisors must have a link to the foreign host institution. The institutions that don't have such a protocol should send an email to prototerapia@lip.pt to express their interest in joining the doctoral grants program. A template of the protocol can be found at https://prototerapia.lip.pt/files/prototera_minute_agreement.docx.

Each thesis theme can have a maximum of three supervisors, with one being the main supervisor and the other(s) (optional) the co-supervisors. Any fully active researcher holding a PhD may be a supervisor or co-supervisor.

To submit thesis themes, you need first to register using the following link: <https://prototerapia.lip.pt/register>. Supervisors and co-supervisors should guarantee that their CV is uploaded in the website.

During this phase, supervisors should submit thesis themes. For each thesis proposed, the supervisor should state the title, the scientific domain, the institution that will award the academic degree, the PhD program, the host institution and, if applicable, the name of the co-supervisor(s).

After logging, supervisors should proceed as indicated below:

- Create a new proposal: go to "**Application->Supervisors->New Thesis**";
 - Insert the title, the scientific domain, the institution that will award the academic degree, the PhD Program, the host institution, and names of co-supervisors if applicable.
 - Insert the work plan, which should be relevant for the installation and operation in Portugal of cancer treatment centers using proton beam therapy, a summary of the thesis and a description of the objectives to be achieved.
 - Insert a clear justification of why the proposed topic is relevant to support the installation and operation in Portugal of cancer treatment centers using proton beam therapy.

2nd Phase: Submission of applications by students – 08th November to 10th December 2021, 17:00 (Lisbon time)

Before applying, you need to register as student using the following link: <https://prototerapia.lip.pt/register>.

Applications can only be submitted electronically through: <https://prototerapia.lip.pt>

No other means of submission are available. Due to the existence of non-Portuguese speaking members on the evaluation panel, applications should be submitted in English in order to ensure an accurate assessment of all the elements. Students may only submit one single application.

All applicants have access to the proposed thesis themes in the website. The applicants should consult the proposed thesis themes and contact the supervisor/co-supervisors of the thesis. A communication between candidates and supervisors is mandatory. The work plan resulting from this interaction should contain a detailed description of how the goals of the research project will be achieved. The description should also provide all the necessary elements to allow the assessment by the evaluation panel, namely the methodological approach, description of tasks, their interrelatedness, sequence and schedule. It may also include a contingency plan, addressing how

possible unforeseeable difficulties might be overcome. In order to enable the Evaluation Panel to analyse the feasibility of the proposed work plan, a timeline with milestones for the different tasks should be included.

Besides of other factors, the final locking and submission of the application depends on the association of the supervisor and co-supervisor(s) (when applicable) to the application.

Once the topic has been selected by a candidate in agreement with the supervisor, the candidate formalizes his application by filling the Candidate Application form (*provided on-line*) and uploading the following documents (**mandatory**):

- **One CV file** in pdf format;
- **One Motivation Letter file** in pdf format;
- **The most representative document of the applicant's scientific/professional path** as, for example, a scientific publication, conference communication, scientific report or master thesis; proof of scientific or professional achievement, performances or artistic creations. Academic degree certificates, CVs or documents describing the applicant's career path should not be submitted in this field;
- **One PDF file containing certificates of all the academic degrees obtained**, with the final average grade and marks in all subjects
- **One PDF file containing the academic degree recognition** and conversion of the final grade to the Portuguese grading scale or the presentation of the **recognition/equivalence**, registered by a public higher education institution
- **Timeline**, a diagram specifying the milestones and respective tasks proposed in the work plan;
- **Up to three contacts** (names and e-mail addresses) for reference letters (The reference letters will be directly uploaded by the referees. Applicants will not have access to the letters but they will be able to check if and when they have been uploaded. The referees will receive an e-mail with the name of the applicant and with a link for uploading their letters. The Referees can upload the letters during the whole period of the Call).

Optional PDF file containing other documents that the candidate may consider relevant for the assessment of the merit mentioned in the CV;

Click **"Associate Supervisors"**. An e-mail will be sent to the applicant and to the supervisor, as well as to the co-supervisors (when applicable). Applicants must then be confirmed by the supervisor and co-supervisors (when applicable). They will need to fill the supervisor form (*provided by LIP on-line*), describing their personal judgment as regards to the student's CV and his adequacy to the PhD subject.

After the supervisor and co-supervisors have locked their association to the application, applicants

should click "**Submit and Lock**". At this point, the entire application will be validated and, if there is no error, locked. No further modification will be allowed.

Important Notes – Academic degrees

Applicants with academic degrees obtained in Portugal must comply with the following, depending on their specific status:

- For post-Bologna academic degrees, applicants should specify the final grades obtained in the 1st and/or 2nd study cycles, as well as the corresponding ECTS;
- In case of integrated master degrees, for which the institutions do not provide separate final grades for the 1st and 2nd cycle of study, just the final grade and the total number of ECTS should be specified;
- For pre-Bologna academic degrees, applicants should indicate the grades obtained for the graduate and/or master degrees.

For each of your academic degrees, you should click on the "**Add Academic Degree**" button, then select the respective option from the drop list and fill in the respective mandatory fields.

Important notice for national and foreign candidates

Only candidates who have completed the cycle of studies leading to a Bachelor's or Master's degree by the end of the application period will be admitted. In order to comply with the foreseen applicable Portuguese legislation regarding the recognition of foreign qualifications, all the rights inherent to academic degrees granted by foreign higher education institutions is duly recognised to the holders of these degrees. This recognition is subject to the presentation of **the academic degrees recognition and conversion of the final grade to the Portuguese grading scale**, requested to the Dean of a public Portuguese University, the Head of a Public Polytechnic Institute or the Director-General for Higher Education; or by the presentation of the **recognition/equivalence**, registered by a public higher education institution.

Candidates who do not yet have their degree certificate may present a declaration of honor, stating that they have completed the necessary qualifications for the purposes of the call by the end of the application deadline. The granting of the scholarship will depend on the presentation of all the documents. For candidates with diplomas issued by foreign institutions **the academic degrees recognition and conversion of the final grade to the Portuguese grading scale** or the presentation of the **recognition/equivalence** will be required for the granting of the scholarship.

Nevertheless, the presentation of the **degree certificates in the application form is determinant for evaluation purposes**, namely to calculate the score of A1, a sub-criterion of the Merit of the Applicant. In case of academic degrees obtained abroad, **only degrees with the respective records of recognition/equivalence and conversion to the Portuguese grading scale will be considered to calculate the score of A1 sub-criterion.**

The minimum grade of zero (A1 = 0) will be scored to sub-criterion A1 in the following cases:

- a) When no certificate is submitted, in the application form, neither graduate nor master's degree certificates (national or foreign);
- b) When both national graduate and master certificates do not state the respective final grade (neither quantitative nor qualitative);
- c) When both foreign graduate and master certificates are not recognized, nor the final grades converted to the Portuguese grading scale.

The members of the panel will only assess the degrees duly recognized at the date of the application submission.

The legal regime applicable to the recognition procedures is approved by the Decree-Law no. 66/2018, of 16 August, if requested after 1 January 2019. For requests submitted before 1 January 2019, the applicable legal procedure is ratified by Decree-Law 341/2007, of 12 October, and regulated by Decree no. 227/2017, of 25 July, or, alternatively, for equivalence processes, the request is governed by the Decree-Law no. 283/83, of 21 June.

For further information, applicants are advised to carefully read Decree-Law 66/2018, of 16 August, and to visit the website of the Directorate General for Higher Education (Direção-Geral do Ensino Superior, DGES): <https://www.dges.gov.pt/en/pagina/degree-and-diploma-recognition?plid=1536>

Applicants with foreign academic degrees should:

- Indicate that the academic degree was completed abroad;
- Upload the recognition/equivalence of the academic degree and the final grade conversion to the Portuguese grading scale, issued by a Portuguese public higher education institution or by the Directorate General for Higher Education (DGES).

5. Evaluation

Each application admitted to the Call, if considered to meet the admissibility requirements, will be assessed by the evaluation panel.

The evaluation panel is composed by the following members:



- *Rui Marques* – University of Coimbra (Panel Chairman)
- *Marco Riboldi* – Medical Physics, Department of Medical Physics, Ludwig-Maximilians University, Garching b. Munich, Germany
- *Cornelia Hoehr* – Life Sciences Division, TRIUMF, Vancouver, Canada
- *Morten Høyer* – Aarhus University Hospital, Aarhus, Denmark
- *Saverio Braccini* - Albert Einstein Center for Fundamental Physics, Laboratory for High Energy Physics, University of BERN, Switzerland
- *Richard Amos* - University College London (UCL), London, United Kingdom

Members of an evaluation panel may not supervise or co-supervise applications submitted to their panel.

Evaluation takes into account three criteria:

Criterion A – Merit of the Applicant

The criterion A, which has a 40% relative weight to the final score, is evaluated based on two sub-criteria:

- A1. Academic career (reflecting the academic degree grades), with a relative weight of 50% in the Merit of the Applicant.
- A2. Personal curriculum (reflecting the scientific, professional and academic career, when applicable, and the applicant's motivation to proceed with this study cycle), with a relative weight of 50% in the Merit of the Applicant. In particular, previous experience in the areas of medicine, technology and physics, relevant for the installation and operation in Portugal of cancer treatment centers using proton beam therapy will be valued. In the assessment of the personal curriculum, the panel will consider the motivation letter, in particular, the clear identification of applicant's motivation to submit the application and the maturity to develop the proposed scientific work plan. The recommendation letters and the most representative document (documents of mandatory submission) will also be considered in the sub-criterion A2. In the case of the recommendation letters, the skills identified by the referees selected by the candidate will be evaluated.

In the merit of the candidate criterion, sub-criterion A1 - academic career, only the following will be scored: i) the academic degrees awarded by Portuguese universities whose certificates contain complete information regarding the final grade of each study cycle and the respective number of credits (ECTS), if applicable; ii) the academic degrees awarded by foreign higher education institutions whose recognition and conversion of the final grade to the Portuguese grading scale, according to the applicable legal regime, is demonstrated in the application.

Criterion B - Merit of the work programme

The merit of the work programme criterion has a relative weight of 40% and takes into account the following three parameters:

- B1. Justified relevance of the study object;
- B2. Scientific quality of the state of the art and the methodology of the work programme; B3. Feasibility of the work programme.

Criterion C - Merit of hosting and supervision conditions

The merit of the hosting and supervision conditions criterion has a relative weight of 20% and takes into account two parameters:

- C1. The scientific merit and experience of the supervisor in the scientific field of the application [and, if applicable, the co-supervisor(s)] and suitability with regard to the applicant's supervision and the PhD academic degree achievement;
- C2. Quality and adequacy of the host institution(s) conditions.

For purposes of tiebreak, the final ranking list will be based on the scores assigned to each of the evaluation criteria in the following order: criterion A (Merit of the Applicant), criterion B (Merit of the Work Programme) and criterion C (Merit of the Hosting Conditions).

All applications will be graded from 0.000 (minimum) to 5.000 (maximum) in each of the three evaluation criteria.

Applicants whose application is scored with a final grade lower than 3.000 will not be eligible for studentship granting.

6. Disclosure of results

The results of the evaluation will be communicated to the applicants by email, and the conclusion of the process will be published on the ProtoTera website. In case of a negative decision, applicants dispose of a period of 10 days in which to oppose the decision in a preliminary hearing, as stated in articles 121 and following of the Code of Administrative Procedure. The panel's final decision will be taken after analysis of the applicant's arguments and the candidates notified. In case of disagreement, the candidates have a period of 15 working days to contest the decision. A final appeal may also be lodged with the highest body of the funding entity (FCT) within a period of 30 working days after the announcement of the jury's final classification.

7. Equality and non-discrimination Policy

We are committed to promoting equality and preventing discrimination and welcome the applications of all qualified candidates irrespective of their age, disability, gender, marital status, pregnancy, maternity, gender identity, race, colour, nationality, ethnicity or national origin, sexual orientation, religion or belief, social background or culture or trade union membership.

8. Funding

The scholarship contracts will be signed with FCT. The attribution of grants is conditional on the



presentation of all required documentation and on the admission of the candidate by the Institution granting the academic degree, as well as subject to the availability of FCT funds. The lack of any of the necessary documents to complete the contracting procedure implies the expiration of the studentship granting and conclusion of the process; applicants have up to 6 months after the disclosure of the provisional granting to present all of the listed documents.

The scholarships awarded by FCT under this contract will be financed by funds from the Portuguese State Budget and, when applicable, by funds from the European Social Fund through the Operational Programs of Portugal 2020 (Programa Operacional Regional do Norte (NORTE 2020), Programa Operacional Regional do Centro (Centro 2020) and Programa Operacional Regional do Alentejo (Alentejo 2020)), or additional funding schemes that might be approved.

9. Applicable Legislation and Regulation

All missing aspects from this Call will follow the FCT Regulations for Studentships and Fellowships available at:

<https://dre.pt/application/conteudo/127238533>

and the Research Fellowship Holder Statute available at:

<https://dre.pt/application/conteudo/124256707>

ProtoTera – PhD Program

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