



## CALL FOR AWARDING RESEARCH FELLOWSHIPS WITHIN PROJECT GRANTS AND R&D INSTITUTIONS

### Research Fellowship (BI-RE)

One research fellowship (BI-RE) for a holder of a Master's degree is open at the **Fundação da Faculdade de Ciências da Universidade de Lisboa, F.P. (FFCUL)**, for a project entitled Tumor Treating Fields (TTFields), to be carried out at the Institute of Biophysics and Biomedical Engineering, and financed by Novocure (<http://www.novocure.com>), under the following conditions:

1. **Scientific Area:** Biomedical Engineering
2. **Requirements for admission:** Applicants should have an MSc in Biomedical Engineering, Physics or related areas and have a strong background in bioelectromagnetics.
3. **Factors preferred:** Preference will be given to candidates with experience in segmentation of magnetic resonance images of the head, and mesh generation for finite element analysis. Previous experience with the finite element method is also an advantage.
4. **Work plan:** The objective of this work is to improve our understanding of the use of intermediate frequency electric fields to treat brain tumours (Glioblastoma multiforme, for more details see JAMA 314(23):2535-2543, 2015). These fields are induced non-invasively by transducer arrays placed on the patient's scalp. The successful applicant will develop mathematical methods and computational tools to optimize TTFields delivery, which involves 1) usage and further development of realistic human head models based on either healthy heads with virtual tumors or patient heads with real tumors; inclusion of anisotropy information through DTI data processing, 2) systematic investigation of model parameters and assumptions that affect the electric field distribution, e.g., tissue properties and representation, transducer configuration, 3) optimization of transducer array layout for maximal electric field delivery to the tumor. For a description of the group's work on this topic see, e.g., Phys Med Biol 60(18):7339-57, 2015.
5. **Legislation framework:** A fellowship contract will be celebrated according to the regulations defined by FCT "Regulations for Advanced Training and Qualification of Human Resources", in accordance with Law 40/2004, of 18 August, as amended and republished by Decree-Law No. 202/2012 of 27 August, and as amended by Decree-Law No. 233/2012 of 29 October and by Law No. 12/2013, of January 29, and Decree-Law No. 89/2013 of 9 July; And also by the FCT, I.P. Fellowships Regulation, in force (<http://www.fct.pt/apoios/bolsas/docs/RegulamentoBolsasFCT2015.pdf>) and FFCUL's Fellowship Regulation, as approved on 22<sup>nd</sup> December 2014.
6. **Place of work:** The work will be developed at the Institute of Biophysics and Biomedical Engineering (IBEB), Faculty of Science of the University of Lisbon, under the scientific guidance of Pedro Cavaleiro Miranda.
7. **Fellowship duration:** This position is initially opened for 6 months and will begin on the 1<sup>st</sup> of January 2017. The fellowship contract may be renewed for 3 additional periods of 6 months each, for a total duration of 24 months, or eventually until the end date of the project, in accordance with the provisions of Regulation of Research Fellowships from the Foundation for Science and Technology, I.P.  
The grantee must register for a PhD in Biomedical Engineering and Biophysics at the Faculty of Science of the University of Lisbon, for the duration of the fellowship. The project is expected to be extended for an additional 2 years, for a total of 4 years.
8. **Monthly allowance:** The fellowship amounts to € 980.00. This monthly allowance may be increased during the course of the fellowship up to the limit of € 1200.00.  
The fellowship holder will have a personal accident insurance and, if not covered by any social protection scheme can ensure the right to social security through adherence to the voluntary social insurance scheme, pursuant to Código dos Regimes Contributivos do Sistema Previdencial de Segurança Social.



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The fellowship will be paid monthly by bank transfer.

The PhD fees will be paid directly by the project to the Faculty of Science of the University of Lisbon.

9. **Selection method:** Candidates will be assessed by the quality of their CV and the motivation letter (50%) and the relevance of their experience (50%). Shortlisted candidates will be interviewed via Skype. The Committee reserves the right not to make any appointment, should there be no suitable candidates.

10. **Selection Committee:** Pedro Cavaleiro Miranda (President), Cornelia Wenger and Alexandre Andrade (members).

11. **Publication/notification of results:** The final results of the evaluation will become public, through an ordered list of the final grade, which will be posted at the entrance hall of the **FFCUL**, located at the Faculdade de Ciências da Universidade de Lisboa, C1 bldg – 3<sup>rd</sup> floor, Campo Grande, 1749-016 Lisboa, and sent by email to the candidates. The selected candidate will be notified by e-mail.

12. **Deadlines:** This call for applications is open from the 17<sup>th</sup> of October to the 30<sup>th</sup> of November 2016. Interviews will take place in December 2016.

13. **Application:** Applications may be sent via e-mail to [pcmiranda@fc.ul.pt](mailto:pcmiranda@fc.ul.pt), by attaching the following documents: Curriculum Vitae, motivation letter, copy of master's degree, and other documents deemed relevant. Applications sent by mail will not be accepted.