

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

2 Research Fellowships for R&D Initiation (BII) for BSc or MSc student

2 Research Fellowship(s) for R&D Initiation (BII) is(are) open at the **FCiências.ID – Associação para a Investigação e Desenvolvimento de Ciências**, for the project/R&D institution “Surfaces and interfaces of Soft Active Matter/CFTC”, “EXPL/FIS-MAC/0406/2021”, funded by the Fundação para a Ciência e a Tecnologia, I.P./MCTES through national funds (PIDDAC) under the programme SR&TD for All Scientific Domains, under the following conditions:

1. **Scientific Area:** Physics
2. **Requirements for admission:** Completed Secondary Education.
3. **Additional optional skills and qualifications:** 1) Participation in internships of theoretical or computational research in Soft Matter Physics; 2) Approval on the disciplines of statistical physics, numerical methods and Physics of continuum media; 3) Average grade equal to or greater than 13; 4) Intention to pursue a master's thesis in the same scientific area.
4. **Contracting requirements:** Presentation of the academic qualifications and/or diplomas. Enrolment in BSc or MSc in Physics or related areas
5. **Work plan:** The interfacial behavior of Active Soft Matter systems (ASM) raises notoriously difficult questions. However, away from the phase transitions (eg Motility Induced Phase Separation, MIPS), adsorbed films are finite and can be investigated numerically, using techniques and state-of-the-art concepts. The free interface will be approached simulating films of increasing thickness, following a similar path to the “complete wetting” scenario in equilibrium systems. We will use large-scale simulations of a lattice model of active Brownian Particles (ABPs) near the MIPS boundary using kinetic Monte Carlo methods, without rejection, to access the relevant length and time scales. We will implement a quasi-grand canonical method to investigate the film thickness close to MIPS. For non-scalar ASM systems, we will use the generalized mean field theories of Landau-de Gennes, to investigate the couplings that lead to S&I-induced order. We will use lattice-Boltzmann methods to study the currents induced by the activity and by the gradients of these order parameters in the films.
6. **Legislation framework:** Research Fellowship Holder Statute, in accordance with Law 40/2004, of 18 August, in its current version and the FCT Regulation for Research Studentships and Fellowships, in its current version (Reg. 950/2019 published in DR on 16th December: <https://dre.pt/application/file/a/127230968>, or at the FCT website: <https://www.fct.pt/apoios/bolsas/regulamento.phtml.pt>), and FCIências.ID Fellowship Regulation, as approved on 12th May 2020 (available at [Regulamento de Bolsas de Investigação Científica da FCIências.ID](https://www.fciencias.id/regulamento-de-bolsas-de-investigacao-cientifica-da-fciencias.id)).
7. **Place of work:** The work will be developed at the Centro de Física Teórica e Computacional CFTC da Faculdade de Ciências da Universidade de Lisboa under the scientific supervision of Professor Margarida Telo da Gama.
8. **Fellowship duration:** This position is initially opened for 6 months and will begin in January 2022. The fellowship contract may be potentially renewed for 6 months, in accordance with the provisions of Regulation of Research Fellowships from the Foundation for Science and Technology, I.P.

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9. **Monthly allowance:** The fellowship amounts to € 446.12 ,according to [table values](#) of the fellowships awarded directly by the FCT, IP. The fellowship holder will have a personal accident insurance and can ensure the right to social security through adherence to the voluntary social insurance scheme, if not covered by any other social protection scheme, pursuant to *Código dos Regimes Contributivos do Sistema Previdencial de Segurança Social*. The fellowship will be paid monthly by bank transfer
The registration in conferences and travel expenses are funded by the project.
10. **Evaluation and selection process:** Candidates will be assessed by the quality of their CV (70%) and Interview (30%).
11. **Selection Committee:** Prof. Margarida Telo da Gama (President), Dr. Rodrigo Carlos Viana Coelho (member), Dr. Cristóvão Sousa Dias (member), Prof. Nuno Araújo (substitute member).
12. **Publication/notification of results:** All the candidates will be notified by e-mail, sent by the call holder, with the selection meeting minutes enclosed.
13. **Deadlines:** This call for applications is open from 10/12/21 to 13/01/2022 .
14. **Application:** Applications should be sent via e-mail to rccoelho@fc.ul.pt, by attaching the following documents:
- Curriculum vitae - **CV may be provided in PDF or through the [CIÊNCIAVITAE](#) system;**
 - Certificate of completion of previous degree;
15. **Time limits for the appeal procedure:** In case of negative decision, the candidates have 10 business days, after the date of announcement of the results of the candidates evaluation, to pronounce their disagreement in accordance with the *Código do Procedimento Administrativo*. Appeals against the final decision may be submitted to the Administration Board of FCIências.ID (fciencias.id@fciencias-id.pt) within 15 business days after the notification date

Note 1: The documents that prove the entitlement of the academic qualifications and diplomas, or the proof of registration in the academic degree or diploma requested on the call, can be dismissed during the application period and replaced by a declaration on their honour from the applicant. Their delivery is mandatory for the fellowship contractualization.

Note 2: Please note that - higher education degrees and diplomas awarded by foreign higher education institutions need to be recognized by a Portuguese higher education institution, pursuant to the [Decree-Law nr. 66/2018](#) (August 16) and the [Ministerial Order nr. 33/2019](#) (January 25). The presentation of the recognition certificate is mandatory for contract signature. More information can be obtained at: <https://www.dges.gov.pt/en/pagina/degree-and-diploma-recognition>.