

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

1 (one) Research Fellowship(s) for R&D Initiation (BII) for Student

1 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 “Active skyrmions in liquid crystal-colloid composite media/Center for Theoretical and Computational Physics”, “PTDC/FISMAC/5689/2020”, 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 - 2020, under the following conditions:

1. **Scientific Area:** Physics
2. **Requirements for admission:** Completed High School
3. **Additional optional skills and qualifications:** 1) Participation in internships of theoretical or computational research; 2) Being in the last year of the BSc; 3) Average grade equal to or greater than 13 in the concluded courses; 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:** Skyrmions are continuous but topologically protected localised configurations of the liquid crystal director field. Experiments revealed the presence of weak backflows associated with skyrmion motion, although no systematic study of this effect was pursued. Additionally, in future lab-on-a-chip applications, skyrmions will undoubtedly encounter shear flows and need to sense and respond to the flow autonomously. We will use an in-house code based on finite differences and lattice Boltzmann to simulate flowing skyrmions in graphics processing units (GPU). We will investigate how to control skyrmions with externally imposed flows in microfluidic devices and how these flows affect the structure of the skyrmions. The comparison with experiments is expected.
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](#)).
7. **Place of work:** The work will be developed at the Centro de Física Teórica e Computacional - CFTC, Faculdade de Ciências da Universidade de Lisboa under the scientific supervision of Professor Doctor Margarida Telo da Gama and Doctor Rodrigo Coelho.
8. **Fellowship duration:** This position is initially opened for 6 months due to start in February 2023. 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.
9. **Monthly allowance:** The fellowship amounts to € 486,12, 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.

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10. **Evaluation and selection process:** Candidates will be assessed by CV (70%) and interview (30%). Applicants whose application is scored with a final classification of less than 60 points are not eligible for granting a fellowship.
11. **Selection Committee:** Prof. Margarida Telo da Gama (President), Dr. Rodrigo Coelho (effective member), Dr. Cristóvão Dias (effective member), Prof. Nuno Araújo (alternate member), Prof. Mykola Tasinkevych (alternate 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 19/01/2023 to 09/02/2023 .
14. **Application:** Applications should be sent via e-mail to rcvcoelho@fc.ul.pt, by attaching the following documents:
- Curriculum vitae, if applicable, with an indication of the curricular year, curricular units completed and respective marks - **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>.