



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

One research Fellowship for MSc Holders (Uma Bolsa de Investigação para Mestres)

One research Fellowship is opened at the **Fundação da Faculdade de Ciências da Universidade de Lisboa**, within the Project “Auto-agregação do modelo de colóides de Lisboa em superfícies estruturadas e mais”, EXCL/FIS-NAN/0083/2012, supported by national funds through FCT/MEC (PIDDAC) under the programme in research lines of excellence, under the following conditions:

1. **Scientific Area:** Physics.
2. **Requirements for admission:** MSc in Physics. Preference given to candidates with research experience in Soft Condensed Matter.
3. **Work plan:** One of the most exciting and far reaching scientific revolutions currently in progress is our increasing ability to miniaturise material design and manufacturing components. Examples include micro and nanofluidics, nanoparticle self-assembly and smart surfaces. As design and technology are pursued on increasingly smaller scales the role of surfaces and interfaces becomes increasingly important. This Project aims at the fundamental understanding of adsorbed fluids at patterned surfaces. It is focused on the study of surface and interfacial phase transitions which are fundamental problems in Statistical Physics and key to control the behaviour of adsorbed fluids at the mesoscale. More specifically we will explore the equilibrium and dynamical interfacial phenomena of simple and complex fluids at geometrically and chemically patterned substrates. To this end we will study a wide variety of fluids (simple fluids, liquid crystals and patchy colloids) in a given set of patterned substrates, using a broad range of techniques (mean-field theory, renormalization group calculations, numerical minimization of the free-energy and Monte Carlo and molecular dynamics simulations). The tasks have been organized into three streams, which will be coordinated by the PI. Stream 1 addresses the effect of fluctuations on interfacial phase transitions while stream 2 focuses on template directed self-assembly of the Lisbon model of patchy colloids. Specific Tasks range from the application of a simple Landau-Safran theory to sophisticated computer simulations of coarse grained and microscopic patchy particle models, under equilibrium and nonequilibrium conditions. In stream 3 the Tasks are designed to integrate this Project with ongoing research on nematics and cholesterics both at CFTC.
4. **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 29 January, and Decree-Law No. 89/2013 of 9 July; Fundação para a Ciência e a Tecnologia, I.P. Fellowships Regulation of 2013.
5. **Place of work:** The work will be carried out at the Centro de Física Teórica e Computacional da Faculdade de Ciências da Universidade de Lisboa, under the supervision of Professor Margarida Maria Telo da Gama.
6. **Fellowship duration:** This position is initially opened for 3 months and will begin in November 2013. The grant contract may be renewed, for additional 3 months periods, up to 24 months, taking into consideration the maximum duration of the project.
7. **Monthly allowance:** The fellowship amounts to € 980 (MSc), according to table of values for the scholarships awarded directly by the FCT, IP. (<http://www.fct.pt/apoios/bolsas/valores>). The grant 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.

8. **Selection method:** Candidates will be assessed by the quality of their CV, including the research experience in the area of the project (75%) and letter of motivation and Skype interview (25%). Each component will be evaluated on a scale 0-20.
9. **Selection Committee:** Margarida Telo da Gama (president), Nuno Silvestre, Nelson Bernardino (members), Matthew Blow and Cristóvão Dias (supplementary members).
10. **Publication/notification of results:** The final results of the evaluation will become public, through a list ordered according to the final grade, which will be posted at the entrance hall of the **Fundação da Faculdade de Ciências da Universidade de Lisboa**, located at the Faculdade de Ciências da Universidade de Lisboa, C1 bdg – 3rd floor, Campo Grande, 1749-016 Lisboa, and the selected candidate will be notified by email.
11. **Deadlines:** This call for applications is open from October 16th to October 29th, 2013.
12. **Application:** Applications may be sent via e-mail to margarid@cii.fc.ul.pt, by attaching the following documents: CV, degree certificates, letter of motivation and at least one letter of recommendation.
Applications may also be sent by mail to CFTC, Avenida Professor Gama Pinto, 2, 1649-003 Lisboa, Portugal.