Centro Interdisciplinar de Investigação Marinha e Ambiental

Novo Edifício do Terminal de Cruzeiros do Porto de Leixões
secretariado@ciimar.up.pt
www.ciimar.up.pt

Av. General Norton de Matos s/n
4450-208 Matosinhos – Portugal
Tel.: (351)223401800
Fax: (351)223390608

GRADUATED RESEARCH GRANT (BI) (1 vacancy)

Reference: PTDC/ MAR-BIO/4694/201-BI-2017-017

A competition is open for the attribution of 1 Graduated Research Grant in the framework of the Project "Navigating through marine-derived fungi: bioprospection and bioactive metabolites and analogues as chemotherapic" (PTDC/ MAR-BIO/4694/2014), reference POCI-01-0145-FEDER-016790, supported by the national funds provided by FCT – Foundation for Science and Technology and European Regional Development Fund (ERDF) through the COMPETE – Programa Operacional Factores de Competitividade (POFC) programme and the Project 3599 – Promover a Produção Científica e Desenvolvimento Tecnológico e a Constituição de Redes Temáticas (3599-PPCDT), according to the following conditions:

1. Scientific area: Biological Sciences

2. Admission requirements:

The candidates must hold a graduation in the field of Microbiology or related fields, with minimum final classification of 15/20. The candidate must have technical and scientific training microbiology, on PCR, DNA sequencing and cell cultures. Candidates should speak and write fluent English, and demonstrate capacity to perform independent research proposing new approaches for this project.

3. Work plan:

The research plan comprises the screening of the antimicrobial activities of antibacterial and antifungal activities of several compounds isolated from a wide range of marine organisms.

Firstly, the minimal inhibitory and minimal lethal concentrations will be determined (broth microdilution method) in a diverse panel of bacterial and fungi including reference strains and pathogenic multidrug-resistant (MDR) isolates. MDR bacteria will be previously characterized in relation to their phylogenetic background and the resistance determinants they harbour.

Subsequently, compounds will be used for synergy tests with antimicrobials and antifungals, against isolates presenting resistance towards those antimicrobials, using the broth microdilution checkerboard method.

Compounds found to have antibiotic or antifungal activity will be tested to check the ability to inhibit the formation of bacterial and fungal biofilms and to destabilize or

Cofinanciado por:
COMPETE 2020 PORTUGAL 2020 UNIÃO EUROPEIA Fundo Europeu de Desenvolvimento Regional FCT Fundação para a Ciência e a Tecnologia

Centro Interdisciplinar de Investigação Marinha e Ambiental

Novo Edifício do Terminal de Cruzeiros do Porto de Leixões
secretariado@ciimar.up.pt
www.ciimar.up.pt

Av. General Norton de Matos s/n
4450-208 Matosinhos – Portugal
Tel.: (351)223401800
Fax: (351)223390608

disintegrate pre-established mature biofilms, respectively. Biofilm formation will be quantified using the XTT assay.

Q*uorum sensing* inhibitory properties of these compounds will be checked by testing reduction or suppression in the production of the violacein pigment by *Chromobacterium violaceum*.

Several protocols will be implemented and adjusted and in order to investigate the ability of compounds to interfere with other bacterial phenotypic resistance strategies (beyond biofilm formation) and with the horizontal transfer of antimicrobial resistance genes between pathogenic and commensal bacteria. Finally, the capacity of these compounds to switch bacterial interactions (established in polymicrobial infections) from cooperative or indifferent to antagonistic will be also examined.

The effect of some compounds on cells of the immune system will be also performed, namely on human blood mononuclear cells.

4. Legislation and official rules:

Law nº. 40/2004, 18th August (Research Fellowship and Studentship Regulation); FCT Regulation for Research Studentships and Fellowships and CIIMAR Grants Regulation.

5. Work place:

The work will be carried out at ICBAS, at FFUP and University Fernando Pessoa. The work will be carried out under the scientific supervision of Prof. Paulo Martins da Costa, Prof.ª. Eugénia Pinto and Prof.ª Maria de Fátima Cerqueira.

6. Duration of the grant:

Duration of six (6) months, starting October 2017, under the regime of exclusive dedication, eventually renewable according to legal terms, up to 30th November 2018.

7. Monthly maintenance stipend:

The monthly maintenance allowance is €745 (one seven hundred and forty-five Euros – Taxe Free), in agreement with the monthly maintenance stipend table of the grants directly attributed by FCT, I.P. within the country (http://alfa.fct.mctes.pt/apoios/bolsas/valores).

8. Selection methods:

The ranking of candidates will be performed by a global evaluation based on:

Cofinanciado por:
COMPETE 2020 PORTUGAL 2020 UNIÃO EUROPEIA Fundo Europeu de Desenvolvimento Regional FCT Fundação para a Ciência e a Tecnologia

Centro Interdisciplinar de Investigação Marinha e Ambiental

Novo Edifício do Terminal de Cruzeiros do Porto de Leixões
secretariado@ciimar.up.pt
www.ciimar.up.pt

Av. General Norton de Matos s/n
4450-208 Matosinhos – Portugal
Tel.: (351)223401800
Fax: (351)223390608

- Evaluation of the Curriculum Vitae - 30%;
- Experience in the research field – 30%;
- Interview – 40% (Only the top listed 3 candidates will be interviewed).

9. Composition of the jury selection:

President of the jury: Prof. Paulo Manuel Rodrigues Martins da Costa

Vogal: Prof. Maria Eugénia Ribeiro Pinto

Vogal: Prof. Maria de Fátima Cerqueira

10. Form of Advertising/notification of results:

The final results of the evaluation will be published through a list sorting the candidates according to their attributed mark, on the CIIMAR website and by e-mail; in case of disagreement, the candidates have a 10-working day term in which to contest the decision, if he/she so wishes, as provided for in the Código do Procedimento Administrativo in a preliminary hearing setting. The jury reserves the right to not assign the grant depending on the quality of the applications.

11. Deadline for application and presentation of applications:

The competition is open from **29th September until 13th October**. The applications must be formalized, compulsorily, by sending the following documents:

- detailed Curriculum Vitae
- copy of the eligibility certificates (classification awarded in graduation should be expressed in 0 to 20)
- motivation letter
- reference contact information of current and past supervisors
- contact e-mail address and phone number
- indication of the reference of the competition (as indicated in this announcement)

The applications must be sent by postal mail to Emília Afonso, CIIMAR – Centro Interdisciplinar de Investigação Marinha e Ambiental, Novo Edifício do Terminal de Cruzeiros do Porto de Leixões, Avenida General Norton de Matos s/n, 4450-208 Matosinhos, and simultaneously by e-mail to: secretariado@ciimar.up.pt. The applications that **do not include all** the elements previously indicated will **not be considered**.

Cofinanciado por:
COMPETE 2020 PORTUGAL 2020 UNIÃO EUROPEIA Fundo Europeu de Desenvolvimento Regional FCT Fundação para a Ciência e a Tecnologia