

## RESEARCH GRANT (BI-MSc) (1 vacancy)

REF. ValorMar/BI-MSc/2018-10A

### Reference:

A competition is open for the attribution of 1 Research Grant in the framework of the project ValorMar, with reference 24517 (10/SI/2016 - I&DT Empresarial - Programas Mobilizadores), supported by the European Regional Development Fund (ERDF) and by the European Social Fund (ESF), according to the following conditions:

**1. Scientific area:** Environmental Engineering, System analysis and simulation, Biological Sciences or Aquaculture.

### 2. Admission requirements

- i) The candidates must hold a Master in the field of Environmental Engineering, System analysis and simulation, Biological Sciences, Aquaculture or fields alike;
- ii) The candidates should be highly motivated and have previous knowledge and experience for integration of scientific findings and its application at an operational level to support daily management decisions;
- iii) The candidates should have technical and scientific training/experience on simulation models (biogeochemical or wastewater treatment models) or broader system dynamics and on data analysis techniques;
- iv) Knowledge on aquaculture recirculation systems or/and wastewater treatment technologies/processes is welcome;
- v) It is mandatory that candidates have a driving license;
- vi) Availability to frequently travel in Portugal to the farms where case studies apply;
- vii) Fluency in Portuguese (mandatory) and in English (not mandatory but will be evaluated).

### 3. Work plan:

This grant is for the application of simulation models to support aquaculture production in a recirculation experimental system connected with a salicornia production system. This aquaculture is one of the case studies included in the Valormar project and is located in the Center of Portugal (Murtosa). For the project purpose this case study will include one component with shrimp reared in RAS, one component with polychetes and one component

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with salicornia production. The work includes: i) model application to simulate the growth and wastes (N, P, and solids) of shrimp reared in the recirculation system using existing bioenergetic models, ii) system simulation for operational calculation of shrimp wastes and other variables of the RAS system including of alkalinity, iii) application of a simple mass balance model for nutrient management in the complete system including the waste producing species (shrimp) and the extractive species (polychaetas and salicornia), iv) model application to simulate salicornia growth and provide guidance concerning crop irrigation. Depending on the applicant knowledge the modelling work can include model development and implementation, besides application. To carry out the workplan the candidate will work with a spreadsheet model and with the range of technological platforms being implemented in the farms, in the context of the Valormar project, for gathering farm field data and external data.

The researcher is expected to follow-up the use of the models within the case study, ensuring that the model outputs are consistent and liaising with manager/field workers to understand constraints or required features to ensure its effective use on the daily operations. This role implies that part of the work is going to be carried out in the aquaculture (in Murtosa).

The researcher will be involved in the different activities of this R&TD project including i) the conceptualization, development and implementation stages in the case study, ii) the implementation of the final models to adopt in each case study in the integrated solution in development in the Valormar project, and iii) support the project management activities. It is expected that the candidate contributes to the project deliveries including preparation of peer reviewed scientific papers and technical reports.

#### **4. Legislation and official rules:**

Law nº. 40/2004, 18th August (Research Fellowship and Studentship Regulation); Regulations for Studentships and Fellowships of the Fundação para a Ciência e a Tecnologia, I.P. and CIIMAR Grants Regulation.

#### **5. Work place:**

Part of the work will be carried out at CIIMAR, Matosinhos, and part will be carried out in the aquaculture (in Murtosa), under the scientific supervision of Dr. Ana Nobre.

#### **6. Duration of the grant:**

Duration of six (6) months, under the regime of exclusive dedication, eventually renewable according to legal terms, up to 34 months. The start date of the grant and of the work will be contingent on the date of signature of the Valormar project, which is already approved.

## **7. Monthly maintenance stipend:**

The monthly maintenance allowance is €980 (nine hundred and eighty Euros – Taxe Free), in agreement with the monthly maintenance stipend table of the grants directly attributed by FCT, I.P. within the country (<http://www.fct.pt/apoios/bolsas/valores.phtml.en>).

## **8. Selection methods:**

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

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

## **9. Composition of the jury selection:**

President of the jury: Luisa MP Valente, Phd

1st Effective Member: Ana Nobre, Phd

2nd Effective Member: Vânia Freitas, Phd

Substitute Member: Filipa Rocha, Phd

Substitute Member: Sónia Batista, Phd

## **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 **30<sup>th</sup> August until 12<sup>th</sup> September 2018**. The applications must be formalized, compulsorily, by sending the following documents:

- detailed Curriculum vitae with clear specification of i) degree classification, ii) previous experience in the above mentioned fields, iii) list of peer reviewed publications, books and/or reports, iv) list of the computer skills (software and/or programming languages for simulation and data

analysis), v) language proficiency for the second language (e.g. certified exam results or other form of proof for instance a work/paper);

- copy of the eligibility certificates, including driving license;
- motivation letter;
- one or more reference contact information of current or 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 e-mail to: [secretariado@ciimar.up.pt](mailto:secretariado@ciimar.up.pt). The applications that **do not include all** the elements previously indicated will **not be considered**.