1 Research Fellowship
PAMACO – Parallel Adaptive Memory Algorithms for Complex Optimization
Reference PAMACO.2012.01

Project PAMACO – Parallel Adaptive Memory Algorithms for Complex Optimization (PTDC/EGE-GES/121660/2010) is recruiting 1 young researcher, with a Master degree in Informatics Engineering or similar, willing to work in the areas of Metaheuristics and Parallel Computing, for a Research Grant for MSc owners. This call concerns research activity that intends to contribute with state-of-the-art parallel algorithms for the solution of complex combinatorial optimization problems proven to be relevant in practical applications. This project is funded by Portuguese funds through FCT/MCTES (PIDDAC) and co-funded by "Fundo Europeu de Desenvolvimento Regional" (FEDER) through COMPETE – "Programa Operacional Factores de Competitividade" (POFC).

1. SCIENTIFIC AREA
Computer Science / Informatics.

2. ACADEMIC DEGREE
Master degree in Informatics Engineering or similar.

3. DURATION AND TYPE OF CONTRACT
From 1 May 2012 until 30 April 2013 (12 months duration, eventually to be renewed for periods of 12 months, till the end of the Project).

4. JOB SUMMARY / WORKPLAN
The PAMACO project aims to contribute to the effective solution of complex optimization problems by designing, implementing and testing new parallel metaheuristic algorithms capable of efficiently handling several classic combinatorial optimization problems with recognized complexity and fundamental in a wide range of applications. In this vein, the research will focus on parallel applications of a new metaheuristic called RAMP (Relaxation Adaptive Memory Programming).

The candidate to be selected will undertake the following tasks:
– Identify prominent problems for a parallel RAMP application;
– Construct (or revise) the RAMP model for each problem selected;
– Design the sequential and parallel RAMP algorithms;
– Implementation, testing and tuning;
– Computational results, evaluation and conclusions;
– Technical reports and scientific papers preparation and writing.

5. LEGISLATION AND REGULATIONS

Law no. 40/2004 (August.18.2004 – "Estatuto do Bolseiro de Investigação Científica"); Regulation no. 405/2010, May.6.2010 (published in "Diário da República" no. 88, II Serie, 06.May.2010) – "Regulamento de Bolsas de Formação Avançada do ISEP"; "Regulamento da Formação Avançada e Qualificação de Recursos Humanos 2010" (Published by FCT).

6. SCIENTIFIC SUPERVISION AND WORKPLACE

The candidate to be selected will be scientifically supervised by Professor Dorabela Gamboa and will work at CIICESI (Center for Research and Innovation in Business Sciences and Information Systems), at the following address:

CIICESI
Escola Superior de Tecnologia e Gestão
Rua do Curral, Casa do Curral, Apt. 205
4610-156 Felgueiras
Portugal

7. REMUNERATION

As defined by FCT (€ 980.00/month), according to the table of stipends of the country (available in http://www.fct.pt/apoios/bolsas/valores.phtml.pt).

8. SELECTION METHODS AND SELECTION PANEL

Only candidates that have presented the complete set of application documents and showing evidence of having the required minimum profile required will be admitted. The selection method will take into account the following components: graduation classification (50%) and the curriculum vitae evaluation (50%). In case of doubts, an interview can be undertaken; in this case it will be conducted in English.

The Selection Panel will be chaired by Professor Dorabela Regina Chiote Ferreira Gamboa and will include Professor Luís da Costa Lima and Professor Ricardo Jorge da Silva Santos. Substitute panel members: Professor Ricardo André Fernandes Costa and Professor Carla Sofia Gonçalves Pereira.

9. ANNOUNCEMENT DIFFUSION AND NOTIFICATION MEANS

The announcement of the Research Fellowship will be published at ERACareers' website and ESTGF's website. Final evaluation results, namely the candidate list, ordered by candidate evaluation, will be made public, in printed form, in CIICESI. The candidates will be individually notified by email message.

10. APPLICATION

<u>Minimum profile required</u>: Solid background on computer science, metaheuristics and parallel computing. At least 1 year of experience in scientific research activities. Author of at least one published scientific paper. Writing and speaking proficiency in English.

<u>Preferred profile</u>: Previous work experience in research activities in the areas of metaheuristics and parallel computing. Good skills concerning the use of relevant software applications (e.g. optimization packages), programming skills and experience in computer applications development.

11. APPLICATION DOCUMENTS AND PERIOD

The application period will take place from 5 April 2012 until 19 April 2012.

The application documents are the following: - Curriculum Vitae; graduation diploma; document with courses marks; copy of any previously published works that are relevant for the application evaluation. An application letter with the fellowship reference (**PAMACO.2012.01**) should be included, indicating clearly the motivation of the application and the full contact information (as minimum: email address, mobile phone number, postal address) of the candidate. All the documents prepared by the candidate for the application should be written in English. Documents should be sent to Professor Dorabela Gamboa (dgamboa@estgf.ipp.pt). Additionally, they should also be sent to the following address:

Dorabela Gamboa (CIICESI)
Escola Superior de Tecnologia e Gestão
Rua do Curral, Casa do Curral, Apt. 205
4610-156 Felgueiras
Portugal