



CALL FOR APPLICATIONS FOR THE AWARD OF RESEARCH FELLOWSHIPS
Regulation on Research Fellowships pursuant to Italian Law no. 240/2010
Politecnico di Bari, issued by Rectoral Decree no. 252 of 05/07/2016

Rectoral Decree no. 156

Purpose

Applications are invited for the selection running at: Department of mechanics, mathematics and management of the Politecnico di Bari for the award of:

-n. 1 professional grant research fellowship, for the execution of research activities within the project entitled: *“Design of oil/gas burners through CFD techniques”*, according to the annexed Activity Programme: *“In the last decades significant efforts have been made to develop cleaner and more efficient technologies to control Greenhouse gases (GHG) emissions. Nonetheless, the current rate of progress is far from being sufficient to reach a full decarbonization. The employment of CFD modeling is a major engineering design tool in routing product development of highly efficient burners for power generation purposes while adopting a significantly reduced time to market. The project will be focused on the use of detailed thermodynamic, chemical kinetics and fluid mechanics numerical models in order to accurately predict highly turbulent flows patterns within full-scale industrial boilers. In particular, the aim of this investigation is the accurate prediction of the turbulent interaction between the fuel (either gaseous or liquid) and the oxidizer through the implementation of detailed kinetic mechanisms (e.g. DRM19, GRIMEC)”*.

-n. 1 professional grant research fellowship, for the execution of research activities within the project entitled: *“Design of pulverized coal and biomass burners through CFD techniques”*, according to the annexed Activity Programme: *“In the last decades significant efforts have been made to develop cleaner and more efficient technologies to control Greenhouse gases (GHG) emissions. Nonetheless, the current rate of progress is far from being sufficient to reach a full decarbonization. The employment of CFD modeling is a major engineering design tool in routing product development of highly efficient burners for power generation purposes while adopting a significantly reduced time to market. The project will be focused on the use of detailed thermodynamic, chemical kinetics and fluid mechanics numerical models in order to accurately predict highly turbulent flows patterns within full-scale industrial boilers. In particular, the aim of this investigation is the proper modeling of the interaction between gaseous oxidizer and solid phase fuel. Concerning the biomass as a fuel, the activity will be focused on the characterization of the main parameters for the devolatilization and burnout models”*

The call for applications for the research fellowship issued pursuant to the University Regulation issued by Rectoral Decree (D.R.) no. 252/2016.

The activities shall be carried out under the supervision of a tutor, Scientific Responsible Marco Torresi in a non-subordinate relationship with no set working hours.

The main place of work will be: Department of mechanics, mathematics and management of the Politecnico di Bari

Requirements for candidacy

The selection is open to candidates in possession of the following qualification:

- Degree in Mechanical Engineering.

Candidates must possess the admission requirements on the deadline for submission of applications laid down in this call.

The selection is not open to any persons who are related by blood or by marriage up to the fourth degree, to a professor working in the department or structure for which the call is issued, or to the Rector, Director General or a member of the Board of Governors of the University.

The selection is also not open to anyone who has held research fellowship contracts with any institution, pursuant to Italian Law no. 240/2010, for a period which, summed to the foreseen duration of this contract, exceeds a total of 6 years, excluding any period in which the contract coincided with a PhD without scholarship, for the maximum limit of the legal duration of the PhD programme.

Furthermore the selection is not open to anyone who has had research fellowship or fixed-term researcher contracts at the Politecnico di Bari or any other state-funded, private-funded or distance-learning Italian university pursuant to articles 22 and 24 of Italian Law 240/2010, or with any other body listed in paragraph 1 of Art. 22 of Italian Law 240/2010 for a period which, summed to the foreseen duration of this contract, exceeds a total of 12 years, even if not consecutive. For the purposes of the duration of the above-described periods, in compliance with the laws in force any periods of maternity or sick leave shall not be calculated.

Application

The application for selection, in a sealed envelope and bearing the title indicated in the call for proposal for the Research Fellowship, addressed to the magnificent Rector of Politecnico di Bari, via Amendola 126/b, 70126 Bari, Italy, drawn up on unmarked paper (according to the annexed model), shall be delivered not later than **17/03/2020**.

Any applications received beyond the deadline will not be accepted.

The application may be presented:

- Shipping by registered letter with return receipt, not later than **17/03/2020** at: Politecnico di Bari, Via Amendola n. 126/B, 70126 Bari (Italia);
- Shipping by e-mail PEC at: politecnico.di.bari@legalmail.it not later than **17/03/2020**.
- Delivered by hand at Protocol Office of Politecnico di Bari, Via Amendola, 126/b - 70126 Bari not later than **17/03/2020** at the following times: Monday. – Thursday From 10.00 to 12.00, Tuesday from 15.00 to 16.30

The structure shall assume no liability for the non-delivery of correspondence which is not the result of errors made by its own staff.

In the application the candidates must, under their own responsibility, indicate:

- surname and name;
 - date and place of birth;
 - nationality;
 - residence and chosen address for correspondence for the purposes of this selection;
 - that they do not have a criminal record and are not involved in any current criminal proceedings (or if so, state which);
 - that they possess the qualification of..... in, obtained from..... on (date)..... (indicate the qualifications required as stated in article 2 of the call for applications
- or
- that they possess an academic qualification obtained abroad, which is deemed equivalent.

The candidates in possession of a qualification obtained abroad must annex to their applications a translation into Italian of their foreign qualification, accompanied by a sworn statement that it is a faithful translation of the original certificate.

The foreign qualification may be declared admissible by the Evaluation Board, solely for the purposes of admission to the selection procedure.

In case of award, the winning candidates having obtained their qualification in a country outside of the European Union, must provide the Structure, in the same manner as laid down

for the presentation of applications, the official translation with a declaration of value of the foreign qualification issued by the competent diplomatic representation or Italian consulate in their home country, in accordance with the applicable laws.

Candidates must enclose the following with their applications:

- Thesis;
- Their scientific and professional curriculum vitae;
- Research proposal

certificates of all qualifications to be assessed according to art. 3 of this call for applications. Academic and professional qualifications issued by Italian public administrations must be self-certified or submitted in an unstamped photocopy, as provided for in art. 15 of Italian law no. 183/2011, by way of a simple declaration of certification pursuant to articles 46 and 47 of Italian Presidential Decree (DPR) 445/2000.

Candidates are admitted to the selection procedure with reserve.

At any time, even after participation in any tests, the Administration may, with justification, exclude them from the selection procedure. The concerned candidate will be notified of such exclusion.

Comparative assessment of the candidates and the Evaluation Board

The candidates will be assessed comparatively by a Commission appointed by a Rectoral Decree, and formed by three professors of Politecnico di Bari.

The selection procedure focuses on the examination of the selection criteria laid down in advance by the Commission, the candidates' scientific-professional curriculum and the scientific work and publications resulting from the documents enclosed with the application as well as an interview, aiming to verify the suitability of the candidate for carrying out the research programme.

During the interview, the Commission will also verify the candidates' knowledge of the foreign language(s) required in the announcement on relevant sectoral topics.

Only for candidates residing or domiciled outside the Italian territory, upon their request, the oral exam may be held also by using Skype. These applicants have to prove their identity to Commission by showing the colour ID document already attached in the application. In that case these candidates will also have to produce, together with the documentation pursuant to art. 3, Annex C duly filled.

Notice about date and location where the oral examination will be published on the online register praetorian (Albo pretorio) of the Politecnico of Bari.

To be admitted for interview, the candidates must show a valid ID document.

At the end of the selection procedure, the Board will draw up a list of candidates with relative scores, and the final ranking of the selection will be published on Politecnico's online register praetorian by a Rectoral Decree.

If two candidates receive the same scores, preference will be given to the younger candidate. The successful candidate has to send to Protocol office of Politecnico di Bari, Via Amendola n. 126/B, 70126 Bari, within 15 days starting from the day after of final ranking publication the following documents:

- a) declaration of acceptance of the research fellowship, by filling up the form available on www.poliba.it/Ricerca/Assegni di Ricerca;
- b) photocopy of ID documents
- c) photocopy of Italian fiscal code (if available).

Duration and amount of the contract

The contract has a duration of 12 months and may be renewed and/or extended in the terms laid down in the University Regulation concerning research fellowships, as issued by D.R. no. 252/2016.

The gross amount of the research fellowship contract is € 19.367,00 (professional) per annum. The amount is exempt of withholding tax and includes all statutory social security charges the Research Fellow is subject to.

The amount will be paid in deferred monthly payments.

Non-accumulation, incompatibility, leave

1. The position of research fellow is incompatible with the following positions:

a) fixed-term and full-time staff employed by the bodies listed in art. 22 para. 1 of Italian Law no. 240/2010;

b) persons employed by any private bodies, on a fixed term, permanent or part-time basis; For staff of any Public Administration other than those listed in letter a) refer to the provisions of point 2 below;

c) persons with fixed-term research contracts with any university;

d) adjunct professors with official teaching responsibilities in degree programmes or specialisation schools in any university;

e) persons enrolled in any first, second or single cycle degree programmes, PhD programmes with scholarships or specialisation school. Self-funded research contracts are compatible with enrolments in non-medical specialisation schools, for which no study grant or contract is foreseen or master's degree only where authorised in advance by the structure Director, and having sought the opinion of the tutor.

f) persons awarded research fellowships at any other body.

2. Employees of public administrations other than those listed in point a) with a fixed-term, permanent or part-time contract shall take unpaid leave of absence for the whole period of the research contract.

3. Freelance professional activities are compatible with the research fellowship contract where authorised in advance by scientific responsible and having verified that the activities in addition to the research fellowship do not prejudice the regular execution of the contract.

4. The accumulation of the research fellowship contract with study grants awarded for any purpose is not permitted, with the exception of those granted by national or foreign institutions for the purposes of integrating the research activities with study periods abroad.

5. The above requirements must be possessed from the moment of entry into force of the contract. The winning candidate shall sign a specific affidavit undertaking to notify the department of any variations in the declared situations as soon as they occur.

Reference norms

For any matters not laid down in this call for applications, refer to the "Politecnico di Bari Regulation for the awarding of grants for cooperation in research activities" by Rectoral Decree no. 252 dated 05.07.2016 and other statutory regulations in force.

The personal data provided by the candidates in their applications, pursuant to articles 7 and 13 of Italian Legislative Decree no. 196 of 30.06.03, shall be processed for the purposes of managing the selection procedure and the contract.

This call for applications will be published on the Politecnico di Bari Portal, on the MIUR website.

Date 28/02/2020

The Rector
Prof. Francesco Cupertino