



**CALL 11-2009
GRANT FOR PREPARATION OF DOCTORAL THESIS
INSTITUTE FOR BIOENGINEERING OF CATALONIA (IBEC)**

Terms of the Call

I. Call

A call is being made for the grants described below. Graduates from any university will be welcome to apply. Successful candidates will be expected to complete their doctoral thesis in the framework of the research projects with the supervisors/tutors listed in the appendix.

II. Requirements

Candidates must fulfil the following requirements:

1. Hold the qualifications that entitle them to do a doctoral thesis.
2. Be enrolled on a doctoral or master's degree programme at the time they submit their applications. In the latter case, they must have a firm letter of acceptance to a doctoral programme once they have completed their master's degree signed by the doctoral programme director.

In exceptional cases, applications will be considered if the above requirements are not met, providing candidates submit a sworn statement of fact whereby they undertake the commitment to enrol on a doctoral programme during the first year of the grant. If they fail to do so, they will have to return any amounts received.

Should applicants hold a degree or equivalent qualification from a foreign university that has not been homologated by the Spanish Ministry for Science and Innovation, they must provide a resolution issued by the University that authorises them to access a doctoral course.

III. Admissions criteria

1. The candidates' academic qualifications and curriculum vitae will be assessed.
2. The suitability of the candidates for the research projects described in the appendices will be assessed.



IV. Structure and duration

The grants comprise two stages, each of which lasts two years, as set out in the Research Staff in Training Statutes. The aim of the grant holders in the first two-year stage of the programme will be to complete their academic training. They must demonstrate they have done so by obtaining a DEA certificate or a similar qualification (see article 20.4 of Royal Decree 1393/2007), or by obtaining their master's degree.

In the second stage, which shall last for at least two years, grant holders will sign an internship contract with the IBEC, providing the following conditions are met: they must have obtained a DEA certificate or similar qualification. During this second stage, grant holders will be expected to complete their doctoral thesis.

Once the first two years of the grant are over, beneficiaries must submit a report on the progress they have made in their training and research work, which must be approved by their supervisor/director, in order to renew the grant and secure the internship contract. In exceptional cases, this report may substitute the DEA certificate or similar qualification.

V. Amounts awarded to the grant

In the first stage, 12 gross monthly payments of €1,142 will be made.

While the internship contract is in force, 12 gross monthly payments of €1,369 will be made.

The above amounts will be updated annually in line with the FPU (University Teaching Staff Training) grant calls made by the Ministry for Science and Innovation.

Payments will be at the end of each month. In any event, the payment of the grant will be proportional to the period over which the holders have been actively engaged in the pursuit of their assigned activities.

Throughout the duration of the grant, beneficiaries will be entitled to free enrolment on a maximum of 32 credits in the case of doctoral programmes that are subject to Royal Decree 778/98, and a maximum of 60 ECTS credits in the case of master's degrees.

Further support will be given to the grant holders' academic training and the completion of their theses in the shape of financial aid for stays at other research centres. As detailed in point IX.d), such stays will have a maximum duration of nine months over the four-year period.

In addition to the set monthly amount, this financial aid will consist of €25 per day for stays in Spain and €40 per day for stays abroad.

Travel expenses will be of a maximum of €100 for Spain, up to €600 in Europe and up to €1,200 in the rest of the world.

Over the two-year grant period, the IBEC will cover beneficiaries' contributions to the General Social Security Regime, in accordance with Royal Decree 63/2006 of 27 January that governs the Research Staff in Training Statutes.

Over the next two years, an internship contract will be extended, implicitly entailing the inclusion in the Social Security general regime.



VI. Documentation and submissions procedure

Candidates who wish to apply for this grant must download the standard application from the IBEC website or collect one from its offices in Calle Baldiri Reixac, 10-12. It must be submitted with the following documents:

1. Academic certificate or a photocopy of the candidate's official university academic record, in which the qualifications obtained are set out.
2. Accreditation that candidates are enrolled on a doctoral programme or a sworn statement of fact whereby they undertake the commitment to enrol on a doctoral programme during the first year of the grant.
3. Curriculum vitae with details of training and experience, accompanied by the corresponding accreditation documents.
4. In the case of candidates who hold foreign qualifications, they must also provide a resolution that authorises them to access a doctoral course, as specified in point II.2 of these terms.
5. Photocopy of ID card or passport.

The application form must bear the candidate's signature and together with the additional documents must be presented at the IBEC's offices **by 2 p.m. on November, 30th 2009.**

All documents must be addressed to the IBEC's Human Resources Department.

VII. Selection

Once the deadline for presenting applications has expired, the Director of the IBEC will set up an assessment committee for each grant that will be made up of:

- The corresponding thesis proposal's supervisor/director.
- The IBEC's Managing Director.
- The IBEC's Head of Human Resources.

Candidates who have not been selected but have been given a positive assessment may go on to form part of the waiting list to cover possible withdrawals.

Should a post be declared void, the call will automatically be renewed on a monthly basis until a valid candidate is found to cover the post or until it is decided to permanently withdraw the call.

The candidates will be exclusively selected on the basis of the merits of their curriculum. Negative and positive selection criteria will not be applied.



VIII. Notification and submission of credentials

1. The resolution with the allocation of the grant and the waiting list will be posted on the IBEC's website.
2. The selected candidate will have seven days to appear in person at the Institute's offices to sign the acceptance of the grant. If the successful candidate has not appeared in person once these seven days have passed, it will be understood that unless there are justified grounds the post will be allocated to the first applicant on the waiting list.
3. At the time of signing the acceptance, the beneficiary must submit a sworn statement in which it is set out that he/she does not receive any other financial aid or grant, unless it is authorised as compatible (see point XIII).
4. Once a final decision has been reached and the grant accepted, the Director of the IBEC will issue the grant holder with the corresponding credentials that prove grant holder status.

IX. Rights of research staff in training

1. In accordance with the Research Staff in Training Statutes, the general rights of the beneficiaries of these grants are as follows:
 - a) To obtain from associate organisations, centres and institutions the collaboration and support necessary to carry out their studies and research programmes normally.
 - b) To form part of the departments, institutes and public or private organisations in which they are carrying out their research.
 - c) To be members of the governing and representative bodies of the universities and public research bodies, as provided for in their statutes.
 - d) To submit applications to calls for additional financial aid to attend scientific meetings or go on stays to further their academic training at institutions other than associate bodies, providing such stays do not exceed nine months over the four-year period.
 - e) To exercise the intellectual property rights derived from their research training activities as per the contributions they have made, pursuant to the amended text of the Intellectual Property Act, approved by Royal Legislative Decree 1/1996, of 12 April, as published in the Official State Bulletin (BOE) 4180, on 3 February, No. 29.

The aforementioned rights shall be separate from, compatible and cumulative with other rights that may be derived from the research carried out, without prejudice to the constraints derived from a collective piece of work when the research staff in training take part or are associated with a collective research project.



f) Possible rights of research staff in training over industrial property shall be subject to the provisions of the corresponding grant, in the frame of Act 11/1986, of 20 March, on Patents, and whenever applicable, to Royal Decree 55/2002, of 18 January, on the exploitation and assignment of inventions devised in a public research body. The abovementioned rights shall under no circumstances be in the form of a salary.

g) Enjoy other rights recognised in the respective calls.

2. Research staff in training who are grant holders are entitled to receive the financial aid that corresponds to them for the duration of the grant, in the manner established for each grant, without such payments being considered salaries. They shall furthermore be entitled to be included on the General Social Security Regime, as provided for in the Research Staff in Training Statutes. They shall also be entitled to the same holidays, days off and leaves of absence enjoyed by the research staff at the body to which they belong.

3. Research staff in training under an internship contract shall enjoy the employment and social security rights that are derived from the contract they sign with the associate body, centre or university.

X. Duties of research staff in training

In accordance with Royal Decree 63/2006 of 27 January, research staff in training shall perform the following duties:

- a) Fulfil the conditions and obligations set out in the respective calls.
- b) Carry out the activities foreseen in their training and research specialisation programmes.
- c) Attain the goals and take full advantage of their training and research specialisation programmes.
- d) Comply with the internal regulations and norms of the organisation or institution in which they carry out their activities, specifically insofar as working conditions and health and safety regulations are concerned.
- e) Abide by the obligations of the General Social Security Regime to which they are subject, as provided for in Royal Decree 63/2006 of 27 January, and those derived from work contracts in the case of research staff in training under an internship contract.
- f) Notify the IBEC if they receive other grants, grants or funding.



XI. Obligations of the IBEC

1. The supervisor/tutor specified in the appendices shall be responsible for the grant. This individual shall ensure that beneficiaries fulfil their obligations and shall inform the Institute's Administrator of possible breaches and other circumstances that may warrant disciplinary actions and, if applicable, the withdrawal of the grant.

2. In the case of withdrawals, grant holders will only be entitled to receive the amount due for the days in the month on which they were actively engaged in the pursuit of their assigned activities until the date of the withdrawal.

XII. Withdrawal

Any grants awarded may be withdrawn should it be discovered that information had not been disclosed or was falsely given, or that their award is incompatible with the legal status of the beneficiary.

These grants may also be withdrawn if the designated beneficiaries fail to fulfil the tasks and goals of their training programme.

XIII. Incompatibilities

The grants that are the subject matter of this call are incompatible with any other that may be received from other public or private bodies.

Other payments will only be authorised if they are the result of teaching tasks (courses, conferences or seminars) or research (books and papers) that are directly related to the research that the grant holder is carrying out, providing that such activities are sporadic and not a habitual practice. These activities may not account for over 30% of the gross annual amount of the grant.

XIV. Notifications

Any information related to these grants will be published on the IBEC website.

XV. Financing

The grant in this call will be financed through the IBEC's budget item devoted to research lines or to the project financed, if applicable.

The awards and the start of the activity and any other purposes of this call shall be subject to available credit.

XVI. Clarifications

The President of the Delegate Committee of the Institute for Bioengineering of Catalonia shall be responsible for clarifying any doubts that may arise in the interpretation of these terms.



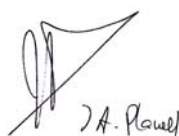
XVII. Other general provisions

Appeals against this resolution that are not resolved through administrative procedures, regardless of their immediate execution, may be filed with the administrative law courts of Barcelona, pursuant to art. 10 of Act 29/1998, of 13 July, which governs administrative appeals. Appeals may be filed within two months, to be counted as of the day following the issue of the notification, as established in article 46 of the aforementioned Act. Any other appeals that candidates deem to be appropriate may also be filed.

Notwithstanding the foregoing, the interested parties may chose to file an appeal for reversal against this resolution, within one month to be counted as of the day following the issue of the notification, before the body that makes the ruling. In such cases, administrative appeals may not be filed as they do not make express or implied rulings on appeals for reversal, as set out in articles 116 and following of Act 30/1993, of 26 November, on the legal system of Public Administrations and on common administrative procedures, amended by Act 4/1999, of 13 January 1999.

Barcelona, 9 November 2009

Director of the IBEC



Josep A. Planell



**CALL 11-2009
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ANNEX 1

Grant Title: Computational flow and perfusion simulations for functional assessment of microvasculature and tissue engineered construct

Supervisor: Dr. Damien Lacroix

Description: Within the context of a European-funded project in the development of tissue engineering construct to control angiogenesis, numerical simulations of such engineering constructs will be developed within the Barcelona group. Quantification of the fluid flow within these constructs is essential to determine the constructs transport properties. Therefore, large-scale computational fluid flow dynamics analyses will be performed to calculate the local mechanical stimuli acting on the constructs and on the cells within the constructs. Validation of the model will be performed based on time-lapsed imaging data obtained on an in-vivo model. Analysis of the angiogenic properties of the constructs will be made and a quantitative assessment of the functionality of the constructs will be given based on the numerical simulations. The results of this study will bring further understanding on the mechanobiology of tissue engineered constructs.

The research group led by Dr. Damien Lacroix has an extensive experience in the development of computer simulations to better understand the interaction between biomaterials, cell biology and mechanical stimuli. The advertised position will start as soon as possible and be funded for 4 years. The candidates should have a degree in Biomedical Engineering, Mechanical Engineering, or Physics. Previous knowledge on finite element analysis and programming skills are highly advantageous. Good skills in both spoken and written English are expected; knowledge of Spanish is beneficial. Candidates should be able to work both independently and as a member of a team.

Grant Code: 11-2009-01