

CALL DESCRIPTION

Ageing 2011

0. Introduction

The mission of the Fundación General CSIC is to stimulate, promote and provide channels for private funding of public research. With this overall goal, the Fundación General CSIC has subdivided its mission into a series of lines of action intended to raise the awareness of scientific research among businesses and society at large, to enable and organise private initiatives to perform research in public organisations, carry out prospective and strategic studies permitting the identification of needs and problems, and organise responses and solutions.

The Foundation aspires to become a key link in relationships between business, research and society, and to be an instrument serving the country's scientific, technological, economic and social development. In addition to its calling as a meeting point, the Foundation aims to go beyond its role managing and channelling private funding towards public research organisations to become an active player in interactions between public and private sector players in the Spanish R&D system. The Fundación General CSIC is therefore running a series of concrete initiatives centred on its own research programmes addressing defined topics to promote scientific development in specific areas.

One of these initiatives is the Proyectos Cero funding line to promote world-class research on topics within the priority strategic lines defined by the Fundación General CSIC's programmes, which can be consulted on the Foundation's website (www.fgcsic.es). One of the features of Proyectos Cero is the emphasis on a transdisciplinary approach to problem solving, meeting needs or addressing scientific, social, economic issues, or discovering new knowledge, rather than taking a constrained, black-and-white, disciplinary orientation.

One of the Fundación General CSIC's strategic lines is *Ageing, disability and illness*. The current call for proposals aims to promote research addressing these problems from various different disciplines. This means addressing the biomechanical, social and psychological factors, as well as looking at the biomedical dimension.

1. Purpose

Societies worldwide are ageing. Extending life spans and falling birth rates are changing the shape of the population pyramid in a way that will clearly have social and economic impacts.

Demographic studies forecast a future scenario in which the over-65 age group will account for more than 21% of the world's population by 2050. In Spain, the figure will be over 30%. The need to deal with the challenges posed by population ageing is therefore more pressing in some societies than others.

The impact on Spanish society can be seen to be particularly powerful, challenging its capacity for regeneration and creating a pressing need to combine longer life spans with improved health and quality of life.

In order to address these issues, the Fundación General CSIC is running a call for project proposals for *Proyectos Cero* projects on Ageing, aiming to promote research into the psycho-social aspects of ageing, and technologies to overcome or alleviate the impacts of human ageing.

Ageing is a multifactorial issue: a variety of factors shape and determine ageing; and it is multifaceted: there are many spheres (biomedical, social, psychological, economic, etc.) in which ageing has an impact.

R&D on ageing in Spain looks at practically all the factors and areas involved, although with varying degrees of coverage (data from the Web of Knowledge – ISI-Thomson). It is worth noting, however, that to date there have been few attempts at transdisciplinary approaches. That is to say, the majority of research focuses on specific aspects of ageing, rather than taking a holistic view of the problem.

Considerable efforts have been made at the European and global level to promote ageing-related research. The reasons for this are clear: the lifespan of the world's population has been extended, but we do not yet have the means to mitigate the impacts of ageing, as only in recent years has it even come to be recognised as an issue (opening up the possibility of looking for solutions to some of its multiple dimensions).

In 2007 the United Nations Programme on Ageing and the International Gerontology and Geriatrics Association established what they called the "Research Agenda on Ageing for the 21st Century." This Agenda set out a series of research priorities for ageing, some of which have been incorporated in both Spain's and the European Union's research lines in this field.

The research into ageing the Fundación General CSIC seeks to promote is fundamentally based on the priorities set in this Research Agenda. This research takes into account at least two nuances:

- The research capacities of the Spanish R&D system regarding ageing
- The transdisciplinary potential of the topics

The Fundación General CSIC is committed to establishing transdisciplinarity in Spanish research. This stems from the conviction that transdisciplinary approaches to problem solving

enable solutions to be derived that would be harder or slower to reach in other ways. Above all, transdisciplinarity can discover new fields of development for R&D and, therefore, contribute to increasing new and groundbreaking knowledge.

The Fundación General CSIC encourages a multidisciplinary view of research in any field, on the understanding that the problems research has to solve are always multifaceted. However, this transdisciplinary approach comes up against traditional modes of research, based on discipline structures, operating exclusively in the confines of their separate silos.

Applications for funding for radical transdisciplinary research in any area tend to come up against the inertia and reluctance of the national R&D system to accept them. There is not only an unwillingness to accept this type of approach, but also a lack of the culture and capacities necessary to execute projects of this kind.

Bearing in mind the system's inertia when it comes to transdisciplinary research, the research promoted by the Fundación General CSIC has been subdivided into three groups (which may be transdisciplinary in themselves, although more traditional single-discipline approaches will also be considered): Biomedicine: including research into the problem from the individual's viewpoint. This aims to answer questions of the type: "Why do we age? When do we age? How do we age? What are the mechanisms underlying the process of ageing? How do we react to our environment when we age? etc.; Psycho-social: studies focusing on the individual, but reflexively (What am I? What is happening to me? How do I think? Why I am I unable to look after myself?), and the interaction between the individual and his or her immediate environment (society); Technological: grouping together research focusing on alleviating the effects of ageing, both on individuals and their immediate environment (carers, families with dependents, etc.) or the broader environment (society in general).

The 2011 call for *Proyectos Cero* proposals on Ageing, which is currently underway, will focus exclusively on these two areas:

- **Psycho-social research into ageing**
- **Technology research focused on ageing and its effects**

The aim is to promote the running of high-impact research projects on either of these two ageing-related topics.

Ideally, projects should apply multidisciplinary methodological, conceptual or strategic approaches. Projects must also have a strong innovative component.

Biomedical research projects are expressly excluded from this call for proposals, as it is intended to make them the object of a future *Proyectos Cero* call.

2. Thematic areas

Studies eligible for funding under the Fundación General CSIC's Proyectos Cero – Ageing initiative must fall within one of the following thematic areas:

Psycho-social research

- ***Social impact of ageing***: The burden on society represented by the elderly population; New parameters and indicators for ageing-related policies; the social and economic impact of ageing; Economic and social modelling of populations with asymmetric age profiles; The effect of population ageing on culture; Geo-socio-economic analysis of ageing.
- ***Impact of ageing***: Biomedical, social, psychological and economic determinants of disability throughout life; Methods to define and measure disability at different ages; Environmental and social intervention strategies and treatments aimed at reducing and/or managing physical and mental disability; Comparatives studies on prevention, management and rehabilitation of the disabled; Interactions between biomedical, social and economic factors in the determination of human longevity (studies on centenarians and nonagenarians); Cognitive capacity and recuperative therapies; Ageing and creativity.
- ***Healthy ageing***: Definition and delimiting of the scope of application of the concept; Variations in healthy life spans within and between countries; Psychosocial determinants of healthy ageing; Socioeconomic status and other determinants of healthy lifestyles; Social, economic and environmental determinants of healthy ageing.

Technology research

Elderly people living alone and who also have certain levels of functional disability need a variety of different assistive and supporting services. In this respect it is important to promote the development of devices contributing to enabling old people to maintain their functional independence and to assist their carer. It is also important to have methodologies, instruments and procedures necessary to handle emergencies. Therefore, in this area the focus is not only on solving the problems the individual elderly person faces (by means of prosthetics or new materials and drugs), but also those of the people involved in caring for and supporting them. *Inter alia*, research under this heading could include:

- ***Telemedicine***
- ***Intelligent and advanced prosthetics***
- ***New biocompatible materials***

- *Home automation and robotics for ageing*
- *ICTs against ageing*
- *Social networks and ageing*

3. Application procedure

The Fundación General CSIC invites researcher public R&D organisations to submit research proposals for funding through this programme. The application and selection process will take place in two stages:

1. Submission of expressions of interest

2. Submission of finalised project proposals

The first phase –submission of expressions of interest– is open to any researchers at public R&D organisations. The expressions of interest submitted at this stage must be concise, direct, summary form, and focus on the central idea(s) of the proposal and its/their interest from a scientific, economic, social, industrial point of view, and/or in terms of generating new knowledge. During this phase proposals must be kept to a minimum without lengthy technical explanations, other than any necessary to support the interest and feasibility of the project proposal.

The objective of this phase is to enable the most innovative and highest impact ideas and proposals to be selected. Only the selected expressions of interest will proceed to the second phase of the process.

In the second phase –submission of finalised project proposals– the parties responsible for the selected expressions of interest are to submit their definitive proposals, setting out in detail their objectives, methods, expected results, timeline for activities, background of the research team, etc.

4. Project types

The projects envisaged in the Fundación General CSIC's Proyectos Cero initiative may be of two types, according to the number of different research entities or institutions taking part:

- **Single-entity projects:** when there is only one research entity involved in doing the research
- **Multi-entity projects:** when two or more research entities involved in doing the research

In this latter case, a single researcher must be appointed to act as project coordinator and act as principal investigator.

Projects in which several research groups belonging to the same entity are taking part are not multi-entity projects, unless a group from another entity is included.

5. Submission of applications and deadlines

During both phases of the process, proposals are to be submitted online only via the Foundation's website using the feature provided for this purpose.

Applications must be submitted by the project's principal investigator only.

In the finalised project proposals phase, applications must be authorised by the legal representative of the entity to which the principal investigator belongs. This authorisation entails that the participant entity accepts the rules governing the call for proposals.

This authorisation shall not be required for proposals submitted during the expressions of interest phase.

In the case of multi-entity projects, definitive project proposals must include the authorisation of the legal representatives of the entities involved.

Applications must be prepared using the online application forms (identification details, report, CV, undertaking to take part, etc.).

In the Expressions of interest phase, the application submission system will generate a receipt which must be printed out and signed by the proposal's principal investigator.

In the definitive project proposals phase, the receipt generated by the submission system must be signed by the principal investigator and the legal representative of the organisation or entity to which he or she belongs. In the case of multi-entity project applications, a receipt page will be generated for each of the participant entities.

The planned deadlines for submissions are as follows:

- Submission of expressions of interest: From 15 January to 28 February 2011
- Submission of finalised project proposals: From 15 April to 31 May 2011.

Access to the online submissions system will be closed on these dates.

Receipts of submission, duly signed, must be sent to the Foundation's offices at (C/Príncipe de Vergara 9 – 2º Dcha. 28001 - Madrid) in a sealed envelope, marked "Fundación General CSIC. Proyectos Cero – Envejecimiento". These receipts must be received at the

Foundation's offices no later than 24.00h on the day set as the deadline for receipt of applications in each case.

For the purposes of calculating the date on which applications are received, the depositing of the application in any register other than that of the Foundation, the date of entry or certification by the post office or a *courier*, shall not be valid.

6. Project requirements

Projects submitted to this call for proposals must comply with the following requirements:

- Be focused on the topic of the call for proposals (Ageing: psycho-social and technological aspects)
- Use transdisciplinary approaches to solving the problem or developing the idea that is the object of the project
- Have concrete and verifiable objectives
- Have a defined execution period (between 1 and 3 years)
- Be executed primarily in Spanish public research organisations
- Be written in English
- Be original and unpublished, and clearly innovative, not merely an extension or transposition of other work in progress or completed
- Envisage dissemination activities (with the support of the Fundación General CSIC)
- The Foundation reserves the right to receive a percentage of the returns obtained by beneficiary institutions on the results of research deriving from Proyectos Cero projects. Initially, this percentage may be up to 20%, revisable every two years, in order to compensate for subsequent variations in the level of contribution to the development or commercial exploitation of the results
- The Fundación General CSIC reserves the right to use the results of the project and any related information for its own dissemination activities
- The funding received from the Fundación General CSIC through this call for proposals is, in general, compatible with that from any other funding body, whether public or private
- If the project has applied for or received funding from other sources, this fact must be stated in the report
- The total project budget must be in line with the amounts envisaged in this call. A project budget's exceeding the maximum allocated by this call will obviously be a factor against it (point 8. Budget)
- At least one of the groups taking part in the project must belong to the CSIC

7. Applicant requirements

Applicants for this funding must be active researchers at any public R&D entity and must fulfil the following requirements:

- Have a doctorate
- Be employed by a Spanish national, regional or local research entity on a standard or public servant contract throughout the duration of the project
- Be able to carry out research independently
- Although collaboration between various research groups and entities is envisaged and encouraged, the general project coordination must be centralised in the hands of a single project researcher
- The participation of research groups from other countries is welcome. In these cases
 - The need for their participation and the added value it brings must be justified
 - Foreign groups must comply with the conditions of the Fundación General CSIC's Proyectos Cero call for proposals, particularly as regards their belonging to public research centres and institutions in their country.
- None of the researchers or technical staff on the project may be included in more than one research project under this call for Proyectos Cero proposals. Nor may they be included in other Fundación General CSIC programmes or calls for proposals in 2011 unless the call expressly states otherwise

8. Budget

The 2011 Proyectos Cero – Ageing call for proposals has been allocated a budget of approximately 1 million euros. It is foreseen that this budget will fund no more than 3-5 research projects.

The funding awarded to the project will be paid in equal yearly amounts over the duration of the project.

25% of the total budget will be paid on completion of the project, after the final report on project execution has been submitted.

The final tranche of funding will only be paid if the project has been run in accordance with its plans, or if modifications have been approved by the Fundación General CSIC's selection committee.

The Beneficiary Institutions undertake to advance the last tranche of the envisaged funding so as to allow the project to be completed.

9. Eligible expenses

Eligible expense items which may be paid for with the Proyectos Cero funding shall include any of the following, provided they are necessary for the execution of the project:

- Research and technical personnel specifically contracted for the project. No payments of grants or scholarships of any type to staff are permitted
- Productivity bonuses for employees included in the project team who are directly employed by the participating institutions may be included as project expenses. However, the total under this heading must under no circumstances exceed 15% of total direct costs of implementing the project (excluding staff costs)
- Travel, subsistence and study visits by staff to domestic and foreign laboratories other than those to which they are normally assigned
- Scientific and technical equipment
- Other expenses necessary for the execution of the project
- Consumable materials
- Indirect costs associated with the project. The accounting rules of each individual institution will be taken into account, but in under no circumstances may indirect costs be more than 15% of total direct costs of the project (excluding staff costs)
- Value Added Tax (VAT)

Staff-related expenses are only eligible in the case of staff who are included in the project. The inclusion of additional staff on the project, once the project has been approved or throughout its duration, is possible, but must be given the Foundation's prior authorisation.

Apart from the cost of consumables and indirect costs, all proposed expense items must be justified in terms of their being necessary for the execution of the project.

The cost of depreciation or repair of existing equipment belonging to the institution prior to the commencement of the project, or those not directly related to the project, may not be charged to the project. The cost of furniture or bibliographic material is also excluded.

10. Evaluation and selection of applications

The Proyectos Cero initiative aims to promote innovative transdisciplinary approaches to solving high impact problems, needs and issues of a scientific/technical nature or with a high social or economic profile or industrial applications.

Research proposals funded by the Proyectos Cero initiative must have a solid scientific/technical basis and approach and demonstrate the essential rigour that must characterise all high quality scientific research.

Moreover, given that the Fundación General CSIC's aim is to promote private participation in the funding of public research, the projects funded by the Fundación General CSIC's Proyectos Cero programme must also pay special attention to aspects of transfer and the possible commercial exploitation of the results of the research, whether these are direct or indirect outcomes of the proposed research.

Proyectos Cero proposals will be evaluated bearing these two points in mind as they are envisaged as being the hallmarks of this research funding. For this reason, the evaluation of Proyectos Cero applications focuses on the potential social, industrial, business and economic impacts as well as the scientific/technical excellence, quality and rigour.

Proyectos Cero proposals will be evaluated by project evaluation committees consisting of panels of reputable experts from outside the Foundation with experience in evaluation in industrial, economic and social spheres as well as scientific and technological ones.

These committees will be set up on an ad hoc basis, with the collaboration of the *Agencia Nacional de Evaluación y Prospectiva* (Spanish National Evaluation and Foresight Agency), according to the topics dealt with in each case.

Evaluation of expressions of interest

The expressions of interest submitted in the first phase of the call for Proyectos Cero proposals will be selected according to their interest, impact, novelty, timeliness, etc.

This phase of the evaluation will be carried out internally by the evaluation committees, whose task is to select the best expressions of interest. This selection will be very restrictive.

Expressions of interest will be evaluated based on the following criteria:

- Closeness of match with the topic of the call
- Originality
- Innovativeness
- Proposed objectives
- Potential scientific and technological impact of the envisaged results
- Transdisciplinary integration of the proposal
- Suitability for transfer to industry, business or the economy
- Interest to society
- Future prospects of the field in which the proposed project is set

Applicants will need to evaluate their proposal on each of these points themselves on the submission form, bearing in mind that an inappropriate evaluation (whether too high or too low) will influence the final evaluation received.

Evaluation of definitive projects

The parties responsible for the expressions of interest selected in the first phase will be invited to submit their finalised proposals for evaluation in the second phase of the process.

Definitive project proposals must set out the full details of the intended project. Its evaluation may require the participation of specific experts (peers) external to the committee in order to have a duly informed evaluation of the scientific/technical merits of the projects.

These external evaluations will help the evaluation committee select the best research proposals, in accordance with the following criteria:

- Scientific/technical quality of the proposal
- Suitability of the theoretical/methodological approach for the achievement of the proposed project objectives
- The scientific/technical capacity of the research team(s) involved in executing the project
- Project planning: time-line, distribution and interrelation of tasks, etc.
- Budget applied for: adequacy in terms of the objectives and its justification
- Forecast publication of results
- Forecast commercial exploitation of the research results.

Following the peer evaluation, parties submitting definitive proposals may be required to take part in a closed session defending their proposals before the project selection committee. During these sessions the committee will discuss the submitted proposal with the applicant, and may ask for specific aspects of the project to be modified.

During this phase, if a number of project proposals share similarities that are potentially complementary, the project selection committee may ask applicants to merge them into a single proposal.

11. Decision

The decision regarding the expressions of interest selected to proceed to the second phase, and the final decision on the projects selected for funding in this call for proposals will be published on the Foundation's website (<http://www.fgcsic.es>) according to the following timetable:

- The decision on the selected expressions of interest: By 15 April 2011
- The final decision on the selected projects: By 31 October 2011

The call may be declared null, in whole or in part.

No appeals may be made against the decisions made at any stage of the selection process.

Expressions of interest and final proposals that are not selected will not be made public. The Foundation shall not enter into any further communication with applicants who have not been selected at any stage of the evaluation process. The evaluations of the project proposals or expressions of interest received shall not be published or disclosed.

The start date for the selected projects must be prior to 1 December 2011.

12. Contracts for project execution and payment of funding

Selected Proyectos Cero applications shall act as Principal Investigators for their projects. However, the legal owner of the funding received shall be the R&D organisation by which the principal investigator is employed, whether on a standard contract or as a public servant.

Principal Investigators for Proyectos Cero projects shall be responsible for the correct execution of the project, in accordance with the terms of the definitive proposal selected. Principal Investigators shall also be responsible for the application of the allocated budget and all the activities associated with the project.

The entities to which the projects' principal investigators belong shall be legally responsible for fulfilment of the conditions under which this funding is granted. These conditions will be set out in the project execution contract which beneficiary entities must sign with the Fundación General CSIC in order to receive this funding.

The project execution contract will cover, *inter alia*, the following points:

- Composition of the research team, identifying the person responsible for the project
- Total amount granted and manner and timing of payments
- Eligible expense items
- Supporting evidence required for expenses
- Procedure by which the Fundación General CSIC will monitor project progress
- Undertakings regarding the exploitation, dissemination and publication rights over the projects research results
- Procedures in the event of non-compliance

The terms and conditions of the project execution contract may not be altered without the express authorisation of the Foundation.

The contract will be signed by the principal investigator, the legal representative of the entity to which he or she belongs, and the legal representative of the Fundación General CSIC.

No funding may be received until the project execution contract has been signed.

The funding awarded shall be paid by bank transfer into an account held in the name of the entity to which the project's principal investigator belongs.

Multi-entity projects

In the case of Multi-entity projects, with research teams belonging to more than one research entity, the respective project execution contracts must be signed with each of the participating entities.

However, in such cases, the payment of funding to the research entities involved must be endorsed by a positive report from the project coordinator.

13. Project progress monitoring

The principal investigators of the Proyectos Cero projects to which funding is awarded must fill in the progress form which can be found on the Foundation's website. This form will give a brief summary of the progress of the project and the extend to which the project's budget has been consumed, with supporting evidence for the expenses incurred.

At its discretion, the Fundación General CSIC, at the behest of the evaluation and monitoring committee, may call the principal investigators of Proyectos Cero projects or their research teams to progress reports with the committee and experts on the topic addressed by the project.

Payment of annual amounts due under the Proyecto Cero funding award shall be subject to the decisions of the evaluation and monitoring committee regarding the degree and level of execution of the project.

At the end of the project, the Principal Investigator shall prepare a final report on its execution, which shall, *inter alia*, cover the following points:

- The results achieved
- The objectives fulfilled
- The objectives that could not be fulfilled and the relevant justification
- The main conclusions of the research
- The scientific publications generate by the project
- Any commercially exploitable results produced and the steps taken to exploit them
- Outreach activities run and science communication materials produced

- Execution of the budget and justification of the expenses incurred, endorsed by the legal representative of the beneficiary entity

In the case of multi-entity projects, a report on how the budget has been spent, together with the supporting evidence, must be provided by each of the beneficiary entities.

The final execution report will be evaluated by the evaluation and monitoring committee, which must approve it before the final tranche of the funding allocated to the project may be paid.

14. On the results of the research

The principal investigator for the project, jointly and severally with the members of the research team and the beneficiary entity/entities to which they belong, undertake to disseminate the results of the research in the form of papers in scientific publications, books, electronic media, lectures, communications at scientific conferences, etc. such that they are accessible to the international scientific community as a whole.

The Fundación General CSIC promotes the publication of the results of Proyectos Cero projects in open access scientific publications, meeting the cost of publication in such journals where necessary.

Likewise, the beneficiaries of funding received through the Fundación General CSIC Proyectos Cero programme should contribute to the dissemination of research to society through dissemination activities, in the form of events (conferences, exhibitions, trade-fairs, etc.) or materials (books, popular science articles, etc.).

All activities communicating the project's research results or the project itself must expressly mention the Fundación General CSIC as the funding entity.

The Fundación General CSIC reserves the right to use the project's results and related information for the purposes of its own dissemination activities, of whatever type, without prejudice to the intellectual property rights and copyright vested in the authors of the work.

Intellectual and industrial property rights (patents, utility models, or other forms of industrial property) deriving from the activities funded through the Proyectos Cero programme shall be the property of the corresponding party, pursuant to Law 11/1986 on patents, Royal Decree 55/2002 on inventions produced in public research organisations and Legislative Royal Decree 1/1996, 12 April 1996, approving the Consolidated Text of the Intellectual Property Act, respecting at all times and in the event of any assignment, publication or licensing to a third party of such property rights, the Foundation's percentage share of any returns that may be generated, as set out in the specific conditions of the project execution contract.

The institution must notify the Fundación General CSIC immediately in writing of any research results deriving from the activities funded by the Proyectos Cero programme that may potentially give rise to an application for property rights.

15. Acceptance of the rules

By participating in this call for proposals principal investigators, all members of research teams, and the entity or entities to which they belong agree to be bound by its rules and by its decisions. No appeals against its decisions shall be allowed. By taking part in this call for proposals, the participants expressly renounce any types of claims.

The Foundation reserves the right to interpret these rules and resolve doubts, disputes and objections on all points relating to this call, whether or not they are covered in the rules.

16. Funding of the call for proposals

The 2011 call for proposals for Proyectos Cero projects on Ageing will be funded by a grant from the CSIC, the Foundation's own resources (to which the Foundation's trustees, Banco Santander, Banco Bilbao Vizcaya Argentaria, la Caixa, the Fundación Ramón Areces and the CSIC jointly contribute), and in particular, by an extraordinary contribution of 1 million euros from Obra Social la Caixa, specifically donated for the purposes of this call.