

Biomedical research on ageing-related diseases
Call for proposals
Deadline: April 28th, 2016

BACKGROUND

Estimates about the trends of EU population over the next 50 years indicate a slight increase in terms of number of individuals, but an important shift towards older ages. It is expected that, by 2060, 30% of the Europeans will be over 65 years old¹.

Ageing is associated to an increased frequency of adverse conditions associated to the reduction of the physiological reserve necessary to withstand stressors being these endogenous or exogenous. Old people are therefore more prone to hospitalization, adverse treatment-related outcomes, loss of functional independency, institutionalization and increased mortality².

Geriatricians define frailty as a sub-clinical syndrome characterized by the following symptoms: abulia, weight loss, exhaustion, muscle weakness, slow gait speed³.

It is crucial distinguishing this syndrome from conditions of recognized disability or any organ-specific disease. Although such conditions might increase the risk of frailty, it is also true that frail individuals continue to be so even in the absence of disability or other pathologies.

Only recently the scientific community has recognized the need to understand together its clinical manifestations and its genetic, biological, microbiological and metabolic mechanisms⁴.

In addition, understanding frailty etiology, prevention and treatment becomes even more crucial in order to reduce national healthcare costs⁵.

AIMS

This call supports research projects aimed to understand biological and pathophysiological mechanisms underlying the geriatric syndrome of frailty. It is also requested to develop new studies - i. e. aimed at the identification of innovative biomarkers to promote advances in precision medicine, as well as pharmacological and behavioral studies - that would allow the prevention or mitigation of harmful effects associated to this condition.

Otherwise projects might identify frailty biological causative mechanisms derived from the observation of its clinical manifestations.

In particular projects must address one of the following research areas:

- genomic instability;
- mitochondrial dysfunctions;
- oxidative stress;
- roles of inflammatory factors;

¹The 2012 Ageing Report, Economic and budgetary projections for the 27 EU Member States (2010-2060), European Commission, 2012.

²Fried LP, Williamson J, Kasper J.; The epidemiology of frailty: the scope of the problem. In: Coe RM, Perry HM II, eds. *Ageing. Musculoskeletal Disorders and Care of the Frail Elderly*. New York: Springer Publishing Co. 1992

³Fried et al.; *J Gerontol Med Sci*; 2001; 56A(3): M146-M156.

⁴Dae Hyun Kim and Sebastian Schneeweiss; *Measuring Frailty Using Claims Data for Pharmacoepidemiologic Studies of Mortality in Older Adults: Evidence and Recommendations; Pharmacoepidemiol Drug Saf.* 2014 September; 23(9):891-901.

⁵Michael J. Rae et al. ; *The Demographic and Biomedical Case for Late-Life Interventions in Aging; The Science Translational Medicine*; 14 July 2010; Volume 2 Issue 40 40cm21.

- dysfunctions in cell renewal in specific tissue and apoptosis induction;
- the role of neurologic, immunological, musculoskeletal, metabolic, cardiorespiratory, hematologic, endocrine factors and their respective interactions;
- regulation of mood and other psychological factors.

In order facilitate midterm research result uptake, projects must be built on effective collaboration between basic and clinical research. A proper merge of the different expertise will allow the development of a global approach to the study of frailty, through the development of mechanistic studies in preclinical models (cellular lines and/or animal models) and clinical studies in well-defined cohorts.

It will be important to clearly state additional competencies of each partner in relation to the ones of the coordinator and explain how different expertise are integrated together in a unique experimental plan.

Research project rationales must be developed on solid preliminary data (state of the art and/or applicants' original results). Special attention will be paid to the adequacy of the approach and the innovativeness of the research.

In addition, it is required that projects represent an opportunity of training and professional development for the young researchers which are part of the working teams.

Also, the Foundation aims at promoting initiatives which envision the accomplishment of activities of communication and interaction with the civil society, fostering Responsible Research and Innovation⁶.

GUIDELINES

Eligible applicants

Beyond the general requirements set out in the “*Guidelines for presentation*”, this call for proposals is addressed to institutions which directly carry out scientific research in the specified field of interest and have adequate staff and equipment for its realization.

Moreover, it is mandatory that the lead institution, and more specifically its operational headquarter, is located within the geographical area of interest of Fondazione Cariplo (Lombardia plus Novara and Verbania districts). This requirement does not pertain to partners.

By submitting a proposal, applicant organizations accept the “portability of the grant”. This means that PIs always maintain the rights to require the transfer of the research project to a new eligible institution, for as long as the research objectives are preserved. Any change in the host institution depends on Fondazione Cariplo approval according to the guidelines of this call of proposals.

PIs, both in the lead and in the partner organizations, must be senior researchers with a solid track record in the field of basic and clinical research. It is also required that PIs

⁶The European movement on the theme of Responsible Research and Innovation (RRI) is constantly evolving, as emerges from the debate which has recently led to the so called “Rome declaration on RRI” (http://www.sis-rri-conference.eu/wp-content/uploads/2014/12/RomeDeclaration_Final.pdf). In light of the available literature, it is possible to describe RRI as a dynamic and iterative process which intends to match research and innovation to values, needs and expectations of the society. Moreover, RRI aims at actively involving all the stakeholders taking part to activities of research and innovation, making them mutually responsible with respect to both the research process and its results.

actively perform their research at their hosting institution and ensure their participation in the project, with an appropriate commitment to its realization.

Also, the Foundation shall not accept applications by PIs (both leader PIs and partner PIs) of projects funded by the Scientific Research Area of the Foundation (with the exception of calls in partnership with other granting agencies) in the context of past calls and still ongoing. A project is considered ongoing unless the final grant reports - both the scientific and the economic one - have been uploaded on the dedicated area of the Foundation website within the deadline of the present call.

Eligible projects:

To be eligible, proposals must:

- be submitted by a partnership made up of at least two different eligible institutions. One of them needs to act as the lead organization. Partnership should include at least one organization focused on basic research and one on clinical research;
- fall in at least one of the key priority research area of this call;
- focus on causal mechanisms;
- include, train and enhance young researchers⁷;
- prepare a communication plan of activities with the civil society, coordinated by one of the young researcher⁸ of the working team in line with the “*Communication Guidelines*”.

Moreover, any proposal with the following characteristics will be considered ineligible:

- purely descriptive projects;
- studies essentially aimed to develop novel methodologies and/or technologies;
- projects with an exclusive pharmacological focus;
- projects with an exclusive basic or clinical focus;
- funding requests aimed to set up new research centres and/or laboratories and/or animal facilities.

Projects should provide the approval of the Ethical Committee⁹. In case of animal experimentations Fondazione Cariplo requires to be informed of the Ministry of Health authorization. In any case authorization must be notified before the final report on the project.

The total cost of the project can only include costs related to the realization of the proposed studies, respecting the eligibility criteria and the thresholds listed below:

- A03 - “Equipment and software”
This entry cannot exceed 20% of the additional costs¹⁰ and can exclusively include newly acquired equipment and software, limited to the percentage of use which can be ascribed to the project.
- A04 - “Other amortizable costs”

⁷The term “young researcher” in this call for proposals indicates graduate fellows, PhD students and post-docs not older than 35 years of age, at the Call’s deadline.

⁸ See footnote 7.

⁹ In case the approval is not available by the Call’s deadline, the leading organization will be requested to send it together with the preliminary fulfillment, penalty the grant revocation.

¹⁰Sum of: A03, A04, A06, A07, A08, A10.

- This entry can only include patent costs.
- A06 - “Temporary staff”
This entry can only include research personnel costs. The cost of administrative staff is not allowed.
- A07 - “Sub-contractors and consultants”
This entry should also include audit costs, where applicable¹¹.
- A08 - “Materials and supplies”
This entry cannot include costs related to stationery and photocopies.
- A09 - “Overheads”
This entry cannot exceed 5% of the additional costs¹².
- A10 - “Travel, publication and dissemination costs”
This entry cannot exceed 15% of the additional costs¹³ and can only include travel expenses and conference participation fees for the research personnel involved in the project, scientific publications.

The grant will cover 100% of project costs. Requested funding should range from 100,000 to 350,000 euros.

When filling in the forms, note that the total cost of the project will have to coincide with the requested funding.

Evaluation criteria

Projects will be evaluated through a peer review process relying on external, independent and internationally renowned reviewers, in order to guarantee transparency and objectivity. At the end of the evaluation process, a feedback containing the reviewers’ comments will be transmitted to each applicant.

Besides the overall scientific quality of the proposal, the evaluation will take into account the following elements:

- the level of analysis of the state of the art;
- the robustness of preliminary data;
- the clarity of the project aims and strategies;
- the expected results and their impact on the scientific community;
- the potential benefits for the health of the elderly;
- the originality and innovation of the project;
- the adoption of a multidisciplinary experimental plan;
- the scientific leadership of the PIs;
- the track record of the PIs and the research team;
- the engagement of young researchers¹⁴, also in positions of responsibility, and the presence of plans for their training and professional development;
- the efficacy of the communication plan, fostering Responsible Research and Innovation¹⁵;

¹¹With the sole aim of ascertaining whether the obligation to perform a financial audit applies or not, the amount which has to be considered is obtained multiplying the eligible costs detailed in the Budget (sum of entries A06, A07, A08, A09 and A10) by the coefficient 1.25 (which represents an estimate of the co-funding generally guaranteed by the hosting institution, mainly in the form of permanent staff). It is also recommended to refer to chapter 10 of the “Grant management and reporting guide” and to the “Guidelines for audit”; both documents are available on the “Grant management and reporting” page of Cariplo Foundation’s website.

¹²See footnote 10.

¹³See footnote 10.

¹⁴See footnote 7.

¹⁵See footnote 6.

- the level of consolidation of the collaborations with national or international research centres and/or the ability to build new partnerships between basic or preclinical and clinical research centers;
- the nature and strength of the partnership and the value added by each partner to the implementation of the project;
- the adequacy of budget and duration of the project.

AVAILABLE BUDGET

The budget available for this call for proposals consists of 4 million euros.

Before submitting a proposal, applicants are kindly invited to carefully read the documents listed below, available on Cariplo Foundation's website at www.fondazionecriplo.it:

- *Guidelines for presentation*;
- *Grant management and reporting guide*;
- *Communication Guidelines*;
- *Guidelines for acknowledgement in scientific communications*;
- *Intellectual Property Rights policy*;
- *Open Access policy*.

By submitting a proposal, applicants acknowledge, agree and accept that the award of the grant requires the irrevocable acceptance of the policies mentioned above and respect of the aforementioned Guide and Guidelines.

In order to apply for a grant under this call for proposals, it is strongly recommended to:

- carefully fill in all the online forms, which specifically include:
 - registry of the leading hosting institution (new applicants should fill in the form *ex novo*, while organizations which have already registered should check and update, when necessary, their details);
 - project section (in Italian);
 - complementary data (in English);
 - budget section.
- upload all the requested documents according to the *Guidelines for presentation*:
 - detailed project¹⁶;
 - detailed budget¹⁷;
 - letter of commitment from the hosting institutions (both lead and partner);
 - partnership agreement;
 - documentation of the hosting institutions.

¹⁶The detailed project has to be compiled on the basis of the form available for this call for proposals, which can be downloaded from the online section "Complementary Data".

¹⁷The detailed budget has to be compiled on the basis of the form available for this call for proposals, which can be downloaded from the online section "Complementary Data".