



International Networks of Excellence in Cardiovascular and Neurovascular Research

Program Description 2021-2022

I. PROGRAM OBJECTIVES

Leducq Foundation is an international grant-making organization comprised of the Leducq Foundation for Cardiovascular Research in Houston (a US-based 501(c)(3)) and the Leducq Corporation, in Boston, MA, which provides administrative services to the grant-making entities, dedicated to improving human health through international efforts to combat cardiovascular and neurovascular disease. In support of this mission the Leducq Foundation has created the *International Networks of Excellence in Cardiovascular and Neurovascular Research Program*, (formerly the *Transatlantic Networks of Excellence in Cardiovascular and Neurovascular Research Program*) which promotes internationally collaborative basic, translational, and clinical research in cardiovascular and neurovascular disease. The principal aim of this program is to foster outstanding and innovative scientific research by bringing together international teams of researchers with complementary expertise and resources to work together on a common thematic problem. The proposals should aim to generate new knowledge with the potential to advance the diagnosis, prevention, and treatment of cardiovascular and/or neurovascular disease. Early career investigators play a vital role in these networks, which provide an excellent context for training and career development in cardiovascular and neurovascular research.

In the 2021-2022 application cycle, the Leducq Foundation will award four *International Network of Excellence grants*, each for an amount not to exceed U.S. \$7,500,000 over five years.

II. NETWORK CHARACTERISTICS

Scientific activities

With the *International Network of Excellence (INE) Program*, the Leducq Foundation looks to support original and outstanding research in the areas of the foundation's mission, namely, cardiovascular and neurovascular disease. Applicants are encouraged to think innovatively and to propose bold new ideas. Nevertheless, while the foundation will bear the risks inherent in innovative research, submitted proposals should not be merely speculative, and all applicants should provide a clear hypothesis and rationale for the research plan.

Networks should strive to advance knowledge on a defined theme, which may cover a variety of interrelated topics or subjects, by capitalizing on the resources and multidisciplinary expertise available within the network. Their overarching principal aim might be, for example, to test a

specific hypothesis, to seek to understand a fundamental mechanistic question, to attempt a breakthrough on a particularly difficult research problem, or to propose a big new idea in cardiovascular or neurovascular research. Network activities should be oriented towards long-term goals, not at producing pre-defined results.

Leducq Foundation accepts applications in basic, translational, and clinical science, including collaborative “bench to bedside and back” programs. Applicants should aim for results that, at the conclusion of the five-year term, have the potential to advance the diagnosis, management, or prevention of human disease, consistent with the overall mission of the Leducq Foundation. For clarity, however, it is not obligatory that a basic science network program contain a translational component. Rather, it is sufficient that the outcome of the network program is expected to have translational potential that can be further developed by appropriate parties in academia or industry.

The selection committee will not generally look favorably on activities ordinarily best pursued by industry, such as high throughput chemical screening, or lead compound optimization.

Structure and organization

Each network is built around an international research alliance involving two network coordinators, who must be located on different continents. Leducq Foundation recognizes the two coordinators as the leaders of, and representatives for, the network. The coordinators are jointly responsible for the design of the research program, the composition of the network, the execution of the research plan, the supervision of participating early career scientists, and the oversight and allocation of the budget. They are given considerable flexibility in their management of the network, and together, subject to the conditions of the research agreement, may modify the research program, make budgetary changes, and add or remove members from the network, over the course of the five-year term.

Each network includes other network members (the principal investigators who make up the network) who participate in the scientific program, and in the administration of the network, to varying degrees. Any Leducq investigator with an independent budget within the network program is considered a network member, and that member’s affiliated institution must sign the research agreement before the member can receive funding. Non-funded investigators (not defined as network members) may also participate in network activities, and the Leducq Foundation does not require that their affiliated institution sign the research agreement for them to be permitted to do so, although network member institutions may want them to sign the intellectual property provisions of the agreement. Early-career investigators participate in the network research program under the supervision or support of one or more network members. The role of each network member is described in the application; it may vary over the duration of the term. As noted above, network membership is not fixed. Network members may be added to, or removed from, the network, as mutually agreed by the two coordinators, and approved by the Leducq Foundation.

Collaboration and Integration

Networks should be organized in such a way that the members chosen should clearly and demonstrably benefit from the international collaborative opportunities the network provides. The **added value of the collaborative effort** to the overall network scientific program is an important indicator of the network's potential, and is evaluated at the initial application and subsequently throughout the life of the network. **Interdisciplinary collaboration is particularly encouraged**, as, for example, the strategic inclusion into a Leducq network of an outstanding scientist who is new to cardiovascular/neurovascular research and brings vital new technology and perspectives.

It is not expected that every member of a network collaborates with every other member. Nonetheless, the network should make an effort to foster an environment where new and creative collaborative projects can take root and grow.

Leducq networks can provide advantages to members in a number of ways, including:

- Bringing new approaches to old problems;
- Catalyzing creativity through multidisciplinary interaction;
- Increasing efficiency through the participation of members with complementary specialized skills;
- Expanding access to resources, such as genetically modified animals, specialized techniques, supplies, equipment, etc.;
- Allowing for the rapid testing of hypotheses in different model systems;
- Enhancing information sharing and communication, particularly with regard to virtual and interactive working methods, and access to databases of mutual interest;
- Promoting personnel exchange, especially for early-career investigators, over the short, medium and long term. Training positions may be made available to researchers from other network member institutions;
- Developing joint research infrastructures and adapting existing equipment for shared use;
- Optimizing the use of support staff and associated personnel among members of the network.
- Provide an enhanced training environment for early career investigators.

Size

The size of the network may vary depending on the theme, on the type of research, and may not be determined fully at the outset. More important than the size of the network is the **rationale for the inclusion of the members**, and the case that is made for the collaborative benefit to be gained by their inclusion. At a minimum, a Leducq network should have three institutional members. As a general recommendation, **the total number of institutions should not be greater than six**, at which point the network becomes more difficult to manage. Applicants proposing to include more than six institutions in the network should discuss directly how the administrative and governance challenges associated with a larger network will be addressed. (For this purpose, INSERM units are considered separate institutions if they are at different universities and/or are administered by different INSERM *délégations régionales*.) **All network applicants must demonstrate in the application how the composition of the network advances the scientific objectives of the research program.**

III. APPLICATION EVALUATION AND SELECTION

Application Process

Leducq Foundation evaluates applications to the *International Networks of Excellence Program* in a two-stage process. Interested applicants must first submit a **letter of intent** describing the composition of the proposed network and the general research plan. The Leducq Foundation uses the web-based service provided by Altum [proposalCENTRAL](#) for the submission of all applications. Instructions for applicants, and information about the application process, are posted on the foundation's website, www.flcq.org. The Leducq Foundation Scientific Advisory Committee (SAC) will review the letters of intent, and request a **full proposal** from a select number of network applicants, which in previous years has averaged 14 out of the approximately 100-120 letters of intent. Full proposals are then evaluated by the SAC at the spring meeting, and four per application cycle are recommended to the Board of Directors for funding.

Eligibility

Participants in a Leducq Foundation *International Network of Excellence Program (INEP)* must have expertise in cardiovascular or neurovascular disease, or a related field, and must be affiliated with an academic research center. The two Network Coordinators must be from different continents. In the consideration of continent boundaries, conventional geographic definitions will obtain. The *INEP* is open to investigators worldwide, with the exception of the coordinator role, as described above. Participation in a *Leducq International Network* is contingent upon the commitment of the participant's affiliated academic institution to abide by the financial and intellectual property provisions. Participants sign a customary research agreement which outlines the conditions of support, the powers of the coordinators to modify the program, and the responsibilities and accountability of network members.

International Network grants are not renewable. Members of concluding networks who wish to reapply with a team that consists of largely of the same participants, and with a theme similar to that of the existing network, are urged to present a new and original direction for research. All applications are considered on a *de novo* basis.

The Leducq Foundation has established the following rules for investigators who may wish to participate in multiple *Leducq International Networks*:

- **Network coordinators** may not participate concurrently in any other Leducq network, in any capacity. Following the conclusion of the program of which they were the coordinators, they are ineligible to apply again to the *International Networks of Excellence Program* as a network coordinator, although they are eligible to participate as a member of another network. An exception is made for network members who, for whatever reason, have taken up the responsibility of network coordinator during the term of the network grant; they may apply to the foundation as the coordinator of a new network.
- **Network members** may not participate in more than two *Leducq International Networks* concurrently. (This rule applies only to the 5-year term of the grant, and not to the no-cost extension period that networks may wish to pursue.)

Investigators are not permitted to submit more applications in an application cycle than the number in which they are allowed to participate if all applications were successful. Practically, this means that in any given year:

- Applicants for the role of coordinator cannot have their name on any other application submitted to the foundation.
- A member of a current Leducq network, which is expected to continue the following year, can be included in only one application to the foundation.
- An investigator not currently participating in a Leducq network can submit a maximum of either one application where his/her role will be that of coordinator, or two applications for that of member.
- An investigator who is a member of two Leducq networks can participate in a network application only when one of the networks of which he/she is a member comes to the end of its five-year term.

Evaluation Criteria

There are five general evaluation criteria employed by the Leducq Foundation in evaluating *International Network of Excellence* applications:

- **Science:**
 - The quality of the scientific work proposed, including originality and level of innovation
 - The long-term potential impact on human health
 - appropriateness of the scientific theme for a network program
- **Network Members:**
 - The excellence of the network as a whole, of its members, as assessed based on the materials (publications, patents, international activities) provided by the applicants
 - The inclusion of network members who are generally well-established investigators with a successful track record of independent research
- **Collaboration:**
 - The rationale for and added value of the collaborative network program
 - The extent and depth of the proposed collaborative effort, and of the participation of research members in the network
 - The capacity to form new and creative collaborative alliances: interdisciplinary collaboration is encouraged
- **Early-career Investigators:**
 - The proposed plan for the role and participation of early-career (up to and including recently appointed faculty) investigators in the network

- The commitment of time and resources of the network and its members to the training and promotion of early career investigators within the network program
- **Feasibility:**
 - The capacity of the network to implement its joint program of activities successfully, in terms of resources, composition, and administrative experience and ability

IV. IMPLEMENTATION

Flexibility, autonomy, and accountability

Networks are granted a high degree of flexibility and autonomy in the implementation of their joint program of activities, including:

- Discretion in network structure and governance
- Capacity to modify the research program
- Ability to reallocate financial resources

Smaller changes can be effected without prior notification; significant changes in the scientific direction of the program, the composition of the network members, or the budget, are possible, but require Leducq Foundation approval.

Some part of the funds available under the grant will be designated at the outset as uncommitted, with the coordinators determining how they should be used as work progresses.

Face-to-face meetings are vital to the success of the network collaborative enterprise. Networks should plan to meet at least twice per year throughout the duration of the grant.

Network coordinators are accountable for the progress made by the network on its research aims. The foundation will conduct formal reviews over the course of the five-year term, and can terminate support in the event of significant problems (See section VI. *Leducq Foundation Oversight*).

V. CONTRACTUAL AND FINANCIAL ARRANGEMENTS

Research Agreements

Participants in a International Network program sign a customary research agreement. [The Summary of Material Terms](#) outlines the conditions of support, the powers of the coordinators to modify the program, and the responsibilities and accountability of network members. A draft of the FLCR Research Agreement will be distributed to each network shortly after grant awards are announced.

Financial arrangements

Networks are awarded up to U.S. \$7,500,000 over 5 years. Payments are made to participating

institutions quarterly in arrears.

Two different arrangements for the distribution of funds are available. A graduated distribution is recommended where time will be needed to develop the collaborative research program. Annual payments on the graduated distribution run as follows:

- US\$ 1,500,000 for year 1
- US\$ 1,500,000 for year 2-5
- Total – US\$ 7,500,000

Networks with a strong collaborative history and an infrastructure already in place may choose a more even distribution over five years, with the maximum available being US\$ 1,800,000 in any given year.

Networks with any unspent funds remaining at the conclusion of the five-year grant may request a no-cost extension for up to one year, which will be granted at the foundation's discretion.

Budgets should be justified based upon the extent to which funds are needed to develop the network and its research program. Leducq Foundation funding should not be the sole source of support for the research program; indeed, it is important that applicants be able to demonstrate other competitive peer review funding sources for some of the basic research. It is expected that Leducq Foundation funding will be used in large part, though not exclusively, to create and support the network. *The commitment to early-career investigators demonstrated in the budget will figure importantly in the evaluation process, and applications with budgets weighted disproportionately to paying salaries of senior investigators will be viewed unfavorably.*

Leducq Foundation funding cannot be used for the following:

- Work that has been completed or is near completion;
- Duplicate funding for any activity;
- Construction or infrastructure projects;
- Supporting research at a for-profit company.

At the time of the submission of the full proposal, coordinators will submit a detailed budget in U.S. dollars using the Budget Template. Should the application be successful, all institutional budgets will be converted into the local currency, using a favorable rate of exchange to be provided by the Leducq Foundation. The Leducq Foundation may request additional clarification or line item changes. One research center will assume primary responsibility for the financial organization of the grant. This center will submit quarterly financial reports to the foundation. Grant payments are made directly by the Leducq Foundation to each institutional member, by wire transfer, in the local currency.

VI. LEDUCQ FOUNDATION OVERSIGHT

Network coordinators are responsible for submitting progress reports to the Leducq Foundation, on a regular basis. These reports (templates for each of these reports can be found on the website), the contents of which are described in the *Research Agreement*, includes, among other items, a summary of the scientific work completed to date, a statement of

expenditures for the term, plans for future work, and proposals for changes to the budget.

Leducq Foundation will:

- Formally review the progress of the scientific work and the management of the network;
- Monitor the finances of the network through quarterly reports;
- Consider changes to the original research design and budget in a timely fashion;
- Conduct a financial audit of the network's expenditures during the five-year term;
- Decide during the term whether to renew the support of the network based upon a satisfactory evaluation of that network's scientific progress and finances, as described in the Research Agreement.

Further information about the Leducq Foundation, and its grant program, is available on the website (www.flcq.org).

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