

First multilateral call for research projects within the

ERA-NET “PathoGenoMics”

1. Motivation

Infectious diseases were responsible for 14.9 million deaths worldwide in 2002, more than those caused by cancer (7.1 million) and close to the number resulting from cardiovascular diseases (16.9 million). Pathogenic microorganisms are responsible for a large number of infectious diseases. The threat that microbial diseases pose to public health has grown in recent years due to the development of resistance to antibiotics and other anti-infective drugs, as well as through the spread of pathogens via global travel.

Genomics has revolutionized medical research in many fields, including the study of pathogenic microorganisms. However, while the human genome effort has received significant funding and international coordination the funding and organization of national research programmes into pathogenomics across Europe has remained fragmented. In this context, two initiatives have been established to aid in the restructuring of European pathogenomics research programmes. The Network of Excellence “Europathogenomics” is aimed at creating scientific impetus in the field of functional genomics of pathogenic bacteria, to favour collaborations and to facilitate training for postdoctoral researchers in the field. The Trans-European Cooperation and Coordination of Genome Sequencing and Functional Genomics of Human-pathogenic Micro-organisms (PathoGenoMics) ERA-NET (Contract number: 006793) has been set up to coordinate the research efforts of member states.

The ERA-NET will help avoid duplication of efforts and should permit complementary national specialization. Better coordination between participants will encourage resource sharing and permit mutual access to technology. Interactions will ultimately lead to the development and use of shared facilities such as biological collections, databases and technological platforms. PathoGenoMics is initially focused on achieving critical mass in terms both of research capacity and of know-how that is not currently available in any of the individual European

countries. With improved coordination of the activities of the interested parties and the strategic use of its resources, Europe could enhance its influence on the world stage.

Under the umbrella of PathoGenoMics,

- the Austrian Federal Ministry for Education, Science and Culture (BMBWK), Austria
- the Academy of Finland (AKA), Finland
- the Agence Nationale de la Recherche (ANR), France
- the Federal Ministry of Education and Research (BMBF), Germany
- the Chief Scientist Office, Israeli Ministry of Health (CSO-MOH), Israel
- the Science and Technology Foundation (FCT), Portugal
- the Ministry of Higher Education, Science and Technology (MHEST), Slovenia
- the Ministry of Education and Science (MEC), Spain

(hereafter called the PARTNERS) have together decided to open the first joint call for multilateral research projects addressing the application of *“global methods and genome-based approaches to study bacterial and fungal human pathogens”*.

The call is being opened simultaneously by the PARTNERS in their respective countries. The general regulations given in this document are the same in each country; sections 3, 4, 7 and 9 relate to national regulations in each PARTNER country.

1. Aim of the call

Within the framework of PathoGenoMics, funding is to be provided for transnational, collaborative projects based on a division of labour with a high degree of innovation and scientific and technical risk. Proposals should focus on:

- Bacterial and fungal pathogens of humans; and related microbial non-pathogenic species
- Bacterial and fungal pathogens of animals with the potential for infecting humans
- Host responses to bacterial and fungal pathogens

Project proposals must clearly show the application of comprehensive methods and genome-based approaches rather than focus on single topics (e.g. study of single genes) or non-genome based approaches (e.g. random screening of antimicrobial compounds).

Proposals should focus on topics within the framework of the following priorities:

- Microbial community ecology, reservoirs, asymptomatic infections
- Commensalism / virulence transition
- Manipulation and exploitation of the host by the pathogen
- Evolution of microbial virulence, fitness and antibiotic resistance
- Regulatory networks and metabolism of the pathogen in the host

2. Financial modalities

Funding is granted for a maximum of three years according to French regulations and to ANR rules (<http://www.gip-anr.fr/document/index.htm>).

3. Funding recipients

In France, research proposals may be submitted by higher education institutions, non-university public research establishments and commercial companies, in particular small and medium-size enterprises (SMEs). Each collaborative consortium should have the optimal critical mass to achieve ambitious scientific goals and should clearly show an added value from working together. A minimum of two ERA-NET partner countries is required. Within a joint proposal, each group leader will be the contact person for the relevant national funding agency.

Each consortium must nominate a project coordinator to represent the consortium externally and be responsible for its internal management. Each consortium will also name a person to coordinate IPR matters (such as licensing in, licensing out, patent and exploitation strategy) together with the legal representative of his/her institution. All research groups agree to abide by the rules and agreements made within the framework of "PathoGenoMics".

Research groups from non-PARTNER countries may participate in projects if they secure their own funding and if their expertise is indispensable for reaching the objectives. Such research groups must accept all the rules and agreements made within the framework of the ERA-NET "PathoGenoMics".

4. Management boards

Two administrative / technical bodies, with the support of the PathoGenoMics Secretariat, will manage and direct the evaluation and approval of research projects:

- i) **The Steering Committee** is composed of one member from each PARTNER country in the call. It will supervise the call and will ultimately make recommendations for proposals to be funded to the national funding bodies. Each national funding agency will appoint a national programme manager to be responsible for local matters.

- ii) **The Scientific Advisory Board** is a panel of scientific experts chosen by the Steering Committee to be responsible for the evaluation process. To ensure independence during the evaluation procedure, the members of this Advisory Board will not submit proposals to this call.

A third body, the **Scientific Coordination Committee**, composed of all the project coordinators (or a person nominated by the group leaders of the consortium) will represent PathoGenoMics in all internal and external scientific matters.

6. Partnering Workshop

A Partnering Workshop will be organized to bring together interested research groups from the countries involved and to facilitate the establishment of contacts. This will take place in February 2006. Registration is by means of a form available for downloading at the PathoGenoMics website. The registration deadline is 13.01.2006. Participation in the Workshop is highly recommended but not a prerequisite for submitting a project proposal.

7. Submission of joint projects

Joint proposals (in English) should be submitted electronically and in hard copy. They should include:

Basic project data (max. 2 pages):

- Names and full affiliations of the group leaders and other personnel participating in the project. A project coordinator will be designated by the consortium to act as its representative.
- Summary of the project
- Project aim(s)
- Financial plan for each consortium member (on form provided)

Detailed information:

- Background and present state of the art in the field (max. 2 pages)
- Proposed work plan (including involvement of participants in different workpackages, together with milestones and deliverables, max. 6 pages)
- Added value of the proposed collaboration (max. 1 page)
- Information about possible exploitation of project results (max. _ page)
- Description of present and anticipated future position with regard to IPR (max. _ page), both within and outside the consortium, e.g. any barriers to sharing materials or results
- Description of ongoing projects of each participating group related to the present topic, indicating funding sources and possible overlaps with proposal (max. _ page per group)
- Brief cvs of group leaders, together with lists of up to five recent publications (max. 1 page each)
- Description of significant facilities and large equipment available to the consortium (max. _ page).
- Description of any training activities foreseen within the project, if applicable (max. _ page).

Application forms are available through the PathoGenoMics website. Proposals should be submitted to the PathoGenoMics Secretariat by 31.03.2006.

8. Evaluation process

The evaluation process will proceed in three steps:

Formal check: The PathoGenoMics Secretariat will assess proposals to ensure that they meet the programme's formal criteria (date of submission; number of participating PARTNERS; inclusion of all necessary information in English; observance of appropriate limits on length). Simultaneously the Steering Committee will check that applicants are eligible to submit applications under the programme. Proposals not meeting the formal criteria will be rejected. The applicant and the Steering Committee will be notified of the rejection of a proposal within three weeks of the deadline for submission.

Peer-review: Proposals that pass the initial check will be delivered to the Scientific Advisory Board, which will first evaluate whether they are relevant to the aims given in section 2. Proposals not within the scope of the call will be rejected without further evaluation. The Scientific Advisory Board will then select suitable experts from the international scientific community to evaluate the remaining proposals. External reviewers will be chosen from countries not involved in the proposal and will carry out a scientific and technical evaluation according to specific evaluation criteria and using a common Evaluation Form (available on the PathoGenoMics website). Specific evaluation criteria will include:

- Scientific quality of the proposal (topicality, originality)
- Innovative potential of the expected results for future clinical or industrial application
- International competitiveness of participating research groups in the field(s) of the proposal
- Feasibility of the project (appropriateness of the methodology, budget and timetable)
- Level of collaborative interaction between the groups and added value of the consortium
- Training aspects, if applicable

The Scientific Advisory Board will establish a ranking of the proposals.

Decision: Based on the ranking, the Steering Committee will suggest which projects to fund. Final decisions will be made at the national level.

Before a project may start, a Consortium Agreement addressing the points given in the *Information for Applicants* should be signed by all consortium members and made available on request to the national funding agency together with any other information required by national regulations.

Joint projects should start early in 2007.

9. Reporting requirements

The coordinators of all the projects funded must submit an annual scientific report, written in English, to the PathoGenoMics Secretariat together with summary reports from each group leader. French research group involved in the projects should also submit a semestral financial report, a short annual scientific report and a final report to the Agence National de la Recherche. The coordinators will present the results of their projects at annual status seminars to be organized by the PathoGenoMics Secretariat.