Third multilateral call for research projects within the ERA-NET PathoGenoMics:

"Transnational pathogenomics: Prevention, diagnosis, treatment and monitoring of infectious diseases in humans"

This document announces the third international joint call on pathogenomics within the framework of the European ERA-NET PathoGenoMics programme. The call focuses on "**Transnational pathogenomics: Prevention, diagnosis, treatment and monitoring of infectious diseases in humans**". The main purpose of the call is to generate joint European research and development activities. Joint projects, with a maximum of 6 participants from a minimum of 3 ERA-NET PARTNER countries, must include participants from both academia and clinics or industry. A proportion of the funding will be reserved to support projects headed by young scientists. Funding will be granted for a maximum of three years. Submissions of proposals will be in two steps: The deadline for submitting pre-proposals is **15 March 2010** and full proposals must be submitted by **30 June 2010**. Projects will be expected to start at the beginning of 2011.

1. Motivation

Despite great advances in medicine during recent years, infectious diseases still pose a serious and increasing threat for public health, both due to the development of resistance to antibiotics and other anti-infective drugs and because of the spread of pathogens via global travel. The support of genome-based research on pathogenic micro-organisms ("*pathogenomics*") should make a significant contribution to counter the threat.

To improve the international coordination of research on pathogenic micro-organisms, the EU has established two main initiatives: 1) *The Trans-European Cooperation and Coordination of Genome Sequencing and Functional Genomics of Human-pathogenic Micro-organisms* (ERA-NET PathoGenoMics) has been created to coordinate the research efforts of member states; and 2) *The Network of Excellence "Europathogenomics"* is aimed at creating scientific impetus in the field of functional genomics of pathogenic bacteria, thereby encouraging collaborations and to facilitating training in the field.

In 2006, PathoGenoMics implemented its first multinational call, which resulted in the funding of 12 transnational consortia for the period 2007-2010 with a total budget of more than 16 M€. This open call was aimed primarily at strengthening basic research in the field. To strengthen the transfer of results from basic research into clinical and industrial applications, PathoGenoMics launched a second joint call targeting *"**Applied pathogenomics: prevention, diagnosis, treatment and monitoring of infectious diseases in humans**"* in 2008. With a similar total budget, 13 transnational consortia were awarded this time to run the research projects during the period 2009-2012. Based on the success of the previous calls PathoGenoMics has decided to publish a third call on translational research, bringing together basic, applied and technology-driven research approaches.

The following PathoGenoMics partner organisations have agreed to participate in the call (hereinafter refereed to as the PARTNERS):

- the Austrian Science Fund (FWF), Austria
- the National Agency for Research (ANR), France
- the Federal Ministry of Education and Research (BMBF), Germany
- the Hungarian Scientific Research Fund (OTKA) and the Hungarian Academy of Science (HAS), Hungary
- the Chief Scientist Office, 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 Science and Innovation (MICINN), Spain

The PARTNERS are opening the call simultaneously in their respective countries.
The general regulations given in the call text apply to all applicants, whereas there are additional national regulations of the funding organisation in each PARTNER country. Applicants must refer and adhere to the specific regulations of the national funding organisations.

2. Aim of the call

Within the framework of PathoGenoMics, funding will be provided for transnational, collaborative projects based on a division of labour with a high degree of innovation and

scientific and technical risk. Within the frame of this call “microorganisms” refer only to bacteria and fungi. Project proposals should focus on:

- the development of novel diagnostics, vaccines and therapeutics against infectious diseases caused by bacterial and fungal pathogens of humans,
- the analysis of pathogenic mechanisms of microorganisms that are pivotal for the infectious process and the specific pathology,
- the interaction of pathogenic microorganisms with their hosts.

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Potential topics of the proposals could include:

- new tools for the prevention of infectious diseases and secondary pathologies, development of new vaccines, use of pre-/probiotic potential of microorganisms,
- development of new tools or strategies for diagnosing and monitoring infections, development of new procedures for faster/more cost-efficient diagnostics,
- development of new therapies, validation and lead identification of potential new therapeutics, host impact, studies on mode of action/mode of side effects, investigations of the role of micro-organisms in secondary pathologies (e.g. in chronic diseases),
- development and application of new technologies like new sequencing and HTS methods, new animal models, quantitative functional genomics (including expression profiling, gene silencing, epigenetic mechanisms of gene expression modulation, SNP analysis), infection-relevant protein profiling, systems biology approaches, *in vivo* imaging/screening technologies.
- genome variability studies (e.g. species-specific or infection-specific); establishment of pan-genomes; metagenomic approaches (e.g. within a given ecological niche).

The projects must be based on genome-wide approaches. Furthermore, they must: 1) show a close cooperation between academic and clinical or industrial participants, 2) present convincingly the application (exploitation) of the project results, and 3) demonstrate a clear benefit to the public.

3. Financial modalities and funding prerequisites

Funding is granted for a maximum of three years in accordance with national regulations. All project participants will be required to sign a Consortium Agreement (CA) before the start of the project, which must address the points given in the Consortium agreement

guidelines. The CA, together with any other information required by national regulations, must be made available on request to the national funding agencies. **Applicants must refer and adhere to their own specific national regulations and scientific remits as detailed in the National Announcements.**

Summary of funding options and restrictions

Funding Body/ Country	**FWF/ Austria**	**ANR/ France**	**BMBF/ Germany**	**OTKA, HAS/ Hungary**	**CSO-MOH/ Israel**	**FCT/ Portugal**	**MHEST/ Slovenia**	**MICINN/ Spain**
Funding of industrial partners	no	up to 45% (SME) or 30% (other)	up to 50 %	no	no	up to 50 %	up to 50 %	up to 50 %
Participation of industry required?	no	welcomed	preferred	no	no	no	no	no
Maximum funding per project partner	no	no	no	75 K€	60 K€	200 K€	no	200 K€
Maximum funding per project	no	no		75 K€	60 K€	over 0.2M€ only if Portuguese participant coordinates		400 K€

Additional documents required	1. FWF's specific application form for international projects 2. 1 page project summary in both German and English	National application forms after funding recommendation				
Any other national restrictions*	follow the criteria for Stand-Alone Projects by the FWF				No double funding (including national funding from CSO-MOH) No salaries for applicants No heavy equipment	see National Annexes

Please note that this is only a summary. Contact the respective national contact person for details.

4. Funding recipients

Research proposals may be submitted by higher education institutions, non-university public research establishments (including hospitals and clinics) and commercial companies, in particular small and medium-size enterprises (SMEs), or by scientists according to relevant national regulations. **Applicants must refer and adhere to their own specific national regulations and scientific remits as detailed in the National Announcements.**

Each collaborative consortium should have the optimal critical mass to achieve ambitious scientific goals and should clearly show an added value from working together. Consortia must have a minimum of three PathoGenoMics PARTNER countries; a maximum of six project participants is accepted.

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 and to be responsible for its internal management. Each consortium should 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 organization. All participants should agree to abide by the rules of PathoGenoMics as defined in the call text and the CA.

Participants from non-PARTNER countries may be involved in projects if they secure their own funding and if their expertise is indispensable for reaching the objectives. However, the maximum number of six participants may not be exceeded. Participants from non-PARTNER countries must also accept all PathoGenoMics rules and guidelines.

5. Consortia of Young Researchers

Part of the available funding is dedicated especially to **consortia of young scientists**. All the project leaders of such consortia must be “young scientists”, which is defined as having spent a minimum of two and a maximum of nine years after finishing their PhD or

equivalent (periods of maternity or paternity leave shall be taken into account; the time is calculated at the deadline for submission of pre proposals).

6. Partnering Website

A Partnering page will be implemented in the PathoGenoMics website in order to facilitate the exchange of research ideas and the effective planning of collaborative projects, as well as to foster the assembly of eligible consortia and the integration of partners who have not been involved in multilateral consortia so far. All potential project partners are invited to register in this electronic tool. Registration will allow them to submit short abstracts and make contributions to the “offers” and “wanted” section.

7. Management boards

Two boards, with the support of the PathoGenoMics Secretariat, will manage and direct the evaluation of research projects:

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

ii) **The Scientific Advisory Board** is a panel of international scientific experts that will be responsible for the evaluation of the proposals.

To ensure objectivity during the evaluation procedure, the members of these two boards will not submit proposals to this call.

8. Submission of proposals

The application will be a two-steps process (pre-proposal, full proposal) with the following timetable:

15.03.2010	**Deadline for pre-proposal submission**
27.04.2010	Communication of the results of the pre-proposal assessment

30.06.2010	**Deadline for full proposal submission**
October 2010	Communication of the funding recommendation
Early 2011	Projects start

The PathoGenoMics Secretariat will be the central contact point for all project coordinators.

8.1 Pre-proposals

Joint pre-proposals (in English, Arial 10 pt, single spacing) should include:

- Names, positions and full affiliations of the project leaders (on the model form provided). A project coordinator should be designated by the consortium to act as its representative.
- Summary of the project, including the project aims and the expected results and their potential exploitation (maximum 2 pages).
- Financial plan (1 page, on the table form provided)

Joint pre-proposals should be submitted electronically to the PathoGenoMics Secretariat by 15 March 2010. Application forms for pre-proposals are available at www.pathogenomics-era.net. **Pre-proposals not adhering to the given formats or including additional documents might not be considered in the evaluation process.**

Each PARTNER will check the eligibility of their national applicants. The Scientific Advisory Board will asses the scientific quality of the pre-proposals and their fit into the scope of the call. **The information given in the pre-proposal is binding**. Thus, any fundamental change between that and the full proposal (composition of the consortia, objectives of the project) is to be communicated to the PathoGenoMics Secretariat with detailed justification and will be allowed with the agreement of the Call Steering Committee

8.2 Full proposals

Full proposals are to be submitted electronically to the PathoGenoMics Secretariat by 30 June 2010 by means of the application forms available at www.pathogenomics-era.net/. The indicated page limits should not be exceeded and no additional documents will be considered.

Full proposals (in English, Arial 10 pt, single spacing) should include:

- Summary of the project (work plan, aims and expected results; max. 1 page)
- Financial plan (on the form provided)
- Background and state-of-the-art (max. 2 pages)
- Work plan (including involvement of participants in different workpackages; max. 6 pages, plus lists of milestones and deliverables)
- Added value of the proposed international collaboration (max. 1/2 page)
- Exploitation plan: Prospects regarding application in clinic and/or industry, market potential, position with regard to IPR both within and outside the consortium (e.g. barriers to sharing materials or results) (max. 2 pages)
- Description of ongoing projects of each participant related to the present topic, indicating funding sources and amounts, and possible overlaps with this proposal (max. ½ page per participant)
- Brief CVs of the project leaders, including lists of up to five recent publications. For young scientists: the CV should demonstrate the compliance with the requirement given by the definition of "young scientist" (= 2-9 years between finish of PhD and pre-proposal deadline). (max. 1 page each)
- Description of significant facilities and large equipment available to the consortium (max. ½ page).
- Description of any training/exchange activities foreseen within the project, if applicable (max. ½ page).
- For companies: short description of the company, financial status quo, own contribution (max. 1 page per company).

Full proposals not adhering to the given formats or including additional documents might not be considered in the evaluation process.

8.3 Evaluation of full proposals

The Scientific Advisory Board will evaluate the full proposals based on the following scientific criteria:

- Scientific quality, innovation and international competitiveness of the proposal
- Scientific expertise of the consortium and chance of success
- Quality of the organisation and coordination, multidisciplinarity, appropriateness of time and work schedule, feasibility according to existing and requested resources (equipment, man power, etc.)
- Impact for public health

- Prospects for the transfer of results into clinical and/or industrial application (quality of exploitation plan, economic innovation potential, market potential and competitiveness, patent situation)

A common evaluation form will be made available on the PathoGenoMics webpage.

8.4 Decision

The Scientific Advisory Board will develop a ranking list of the proposals. Based on this list the Call Steering Committee will propose the projects to be funded. Final decisions will be made at the national level. The participants involved in the selected projects will be funded through the national programs (see specific national regulations and contact the respective national contact person). Projects would start early in 2011.

9. Contact persons

The only official communication line of the proposal is between the PathoGenoMics Secretariat and the project coordinator. The project coordinator will the person contacted by PathoGenoMics Secretariat during the application procedure, so he/she must forward this information to the other participants. Each country has national contact persons who can be contacted for information about the specific national requirements (see Table II).

National contact persons

Country	**Contact person**	**E-Mail**
Austria	Dr Milojka Gindl	milojka.gindl@fwf.ac.at
France	Dr Aude Sirven	aude.sirven@agencerecherche.fr
Germany; ***PathoGenoMics Secretariat***	Dr Marion Karrasch Dr Bülent Genc	m.karrasch@fz-juelich.de b.genc@fz-juelich.de
Hungary	Prof. Bela Nagy	bnagy@vmri.hu
Israel	Dr. Benny Leshem	benny.leshem@moh.health.gov.il
Portugal	Dr Catarina Resende	catarina.resende@fct.mctes.pt
Slovenia	Dr Marta Sabec	marta.sabec@gov.si
Spain	Dr Julio Barbas	julio.barbas@micinn.es

10. Reporting requirements

The coordinators of all the funded projects must submit a mid-term and final scientific project report (in English) to the PathoGenoMics Secretariat together with summary reports from each participant. In accordance with specific national regulations, each participant should also submit periodical financial and scientific reports and a final report to its national funding agency. The coordinators will present the results of their projects at status seminars to be organized by the PathoGenoMics Secretariat. Any publications resulting from the funded projects must acknowledge the national funding agencies and the ERA-NET PathoGenoMics, and one copy must be sent to the PathoGenoMics Secretariat. As for the call for young scientists, it is expected that young project leaders show their scientific independence acting as senior authors in those publications arising from their results.