


Proposal Evaluation Form

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|  | EUROPEAN COMMISSION Horizon Europe Framework Programme (HORIZON) | Evaluation Summary Report - Postdoctoral Fellowships |
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Call: HORIZON-MSCA-2022-PF-01
Type of action: HORIZON-TMA-MSCA-PF-EF
Proposal number: 101102593
Proposal acronym: EDHI
Duration (months): 24
Proposal title: A Novel Toolkit for the Early Diagnosis of Hearing Impairment (EDHI)
Activity: EF-ENG

| N. | Proposer name | Country | Total eligible costs | % | Grant Requested | % |
|--------|------------------------|---------|----------------------|---|-----------------|---------|
| 1 | UNIVERSIDAD DE GRANADA | ES | 0 | - | 181,152.96 | 100.00% |
| Total: | | | 0 | | 181,152.96 | |

Abstract:

Approximately 40–60% of the European population is at risk of developing hearing loss due to exposure to unsafe noise levels. The EDHI fellowship will develop a novel toolkit sensitive to the first signs of hearing loss – appropriate for use as an early diagnostic. This objective will be achieved by (1) ideating innovative behavioural and neurophysiological tests that will provide novel biomarkers of hearing performance, and (2) developing an automatic classifier that estimates the degree of hearing damage based on these biomarkers. The encouraging pilot data obtained to date, along with the background experience of the applicant and supervisor in developing advanced signal-processing methods and conducting hearing research situate them in an optimal position to conduct the planned research. This fellowship has the potential to transform current clinical practice by providing clinicians with the necessary tools to diagnose hearing disorders that are currently undetected in approximately 1 out of 10 patients. The early diagnosis of hearing difficulties will enable the provision of individualised recommendations to ameliorate a person’s hearing difficulties and prevent any further deterioration, thus reducing the risk of social isolation, anxiety, depression and dementia. Further, a ‘hearing-pathology demonstrator’ will be developed for use in outreach activities to increase awareness amongst the general population of the adverse impacts of hearing loss, and to assist policy makers in the design of effective prevention strategies. In addition, this fellowship lays the groundwork for a substantial bidirectional transfer of knowledge with the host institution and provides the opportunity to engage with top hearing-related industry partners who have an interest in the commercial exploitation of this technology.

Evaluation Summary Report

Evaluation Result

Total score: 98.00% (Threshold: 70/100.00)

Criterion 1 - Excellence

Score: 4.80 (Threshold: 0/5.00 , Weight: 50.00%)

- **Quality and pertinence of the project's research and innovation objectives (and the extent to which they are ambitious, and go beyond the state of the art).**
- **Soundness of the proposed methodology (including interdisciplinary approaches, consideration of the gender dimension and other diversity aspects if relevant for the research project, and the quality of open science practices).**
- **Quality of the supervision, training and of the two-way transfer of knowledge between the researcher and the host**
- **Quality and appropriateness of the researcher's professional experience, competences and skills.**

Strengths

- *The proposal presents high quality research and demonstrates very good innovation potential.*
- *An in-depth analysis of the state of the art is outlined identifying well-defined and realistically achievable objectives. Research challenges and their planned solutions are convincingly described.*
- *The overall methodology, supported by suitable preliminary work is very clearly introduced.*
- *Machine learning approaches planned are very well explained and chosen.*
- *The proposal integrates diverse disciplines leading to a substantial interdisciplinary approach.*
- *The influence of the gender dimension and other diversity aspects is well understood and properly taken into account.*
- *Appropriate open science practices are chosen.*
- *Scientific expertise of the supervisor is excellent and well suited to the research, demonstrating significant experience with supervision of PhD students and post doctoral researchers.*
- *The additional knowledge to be acquired by the researcher through scientific training is precisely documented and quantified.*
- *Two-way transfer of knowledge is convincingly articulated.*
- *The profile of the researcher is very well aligned with the proposed research demonstrating international networks of collaborations from academia to industry.*

Weakness

- *The models and assumptions that underpin the project are not sufficiently substantiated. For example, to be concrete, the hardware and software functionalities needed regarding the portable prototype for diagnosing hidden-hearing-loss to be developed are insufficiently introduced.*

Criterion 2 - Impact

Score: **5.00** (Threshold: 0/5.00 , Weight: 30.00%)

- **Credibility of the measures to enhance the career perspectives and employability of researchers and contribution to their skills development.**
- **Suitability and quality of the measures to maximise expected outcomes and impacts, as set out in the dissemination and exploitation plan, including communication activities.**
- **The magnitude and importance of the project's contribution to the expected scientific, societal and economic impacts.**

Strengths

- *It is clearly outlined in the proposal that additional scientific and technical expertise will significantly enhance the career perspectives of the researcher.*
- *Scientific dissemination of the research results is well-considered and quantified with a detailed exploitation strategy outlined including consideration of the management of Intellectual Property.*
- *A solid public engagement strategy, targeting the general public is foreseen, with communication channels well identified including professional networks and people with hearing difficulties.*
- *The expected scientific, economic, and societal impacts are significant.*
- *The quantified estimates of the project's contribution to innovation, education, and research are credible and the results of the research will clearly contribute to an important impact on public health beyond the immediate scope and duration of the project.*

Weaknesses

None

Criterion 3 - implementation

Score: **5.00** (Threshold: 0/5.00 , Weight: 20.00%)

- **Quality and effectiveness of the work plan, assessment of risks and appropriateness of the effort assigned to work packages.**
- **Quality and capacity of the host institutions and participating organisations, including hosting arrangements.**

Strengths

- *A high quality work plan is comprehensively detailed with the duration, timing and resources allocated to major tasks being highly credible.*
- *The overall organisation of the work packages, including milestones and deliverables, are appropriately outlined in the Gantt chart.*
- *An extensive list of well-identified potential risks is detailed with reasonable mitigation plans which are properly considered.*
- *The integration of the researcher in the host environment is focussed well and the host demonstrates to possess an appropriate infrastructure for the implementation of the research.*

Weaknesses

None

Scope of the application

Status: Yes

Comments (in case the proposal is out of scope)

Not provided

Exceptional funding

A third country participant/international organisation not listed in [the General Annex to the Main Work Programme](#) may exceptionally receive funding if their participation is essential for carrying out the project (for instance due to outstanding expertise, access to unique know-how, access to research infrastructure, access to particular geographical environments, possibility to involve key partners in emerging markets, access to data, etc.). (For more information, see the [HE programme guide](#))

Please list the concerned applicants and requested grant amount and explain the reasons why.

Based on the information provided, the following participants should receive exceptional funding:

Not provided

Based on the information provided, the following participants should NOT receive exceptional funding:

Not provided

Use of human embryonic stem cells (hESC)

Status: No

If YES, please state whether the use of hESC is, or is not, in your opinion, necessary to achieve the scientific objectives of the proposal and the reasons why. Alternatively, please state if it cannot be assessed whether the use of hESC is necessary or not, because of a lack of information.

Not provided

Use of human embryos

Status: No

If YES, please explain how the human embryos will be used in the project.

Not provided

Status: No

If YES, please explain.

Not provided

Do no significant harm principle

Status: Not applicable

If Partially/No/Cannot be assessed please explain

Not provided

Exclusive focus on civil applications

Status: Yes

If NO, please explain.

Not provided

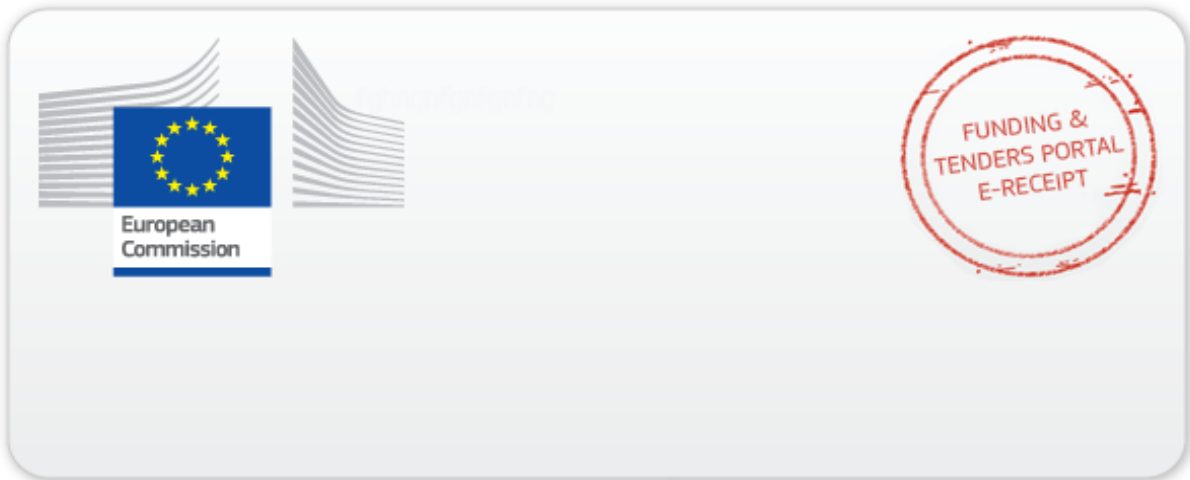
Artificial Intelligence

Status: Yes

If YES, the technical robustness of the proposed system must be evaluated under the appropriate criterion.

Overall comments

This proposal was declared as a resubmission and the corresponding procedure has been applied. Note that over the years, proposals are usually assessed by different evaluators who may express different judgements and opinions.



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